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considerable part of the G. P. zones [1] or the metastable nuclei [1] during recovery are dissolved or change their composition even in a case of prolonged preliminary low-temperature aging [4, 5]. According to data in reference [6], in E1437B alloy in recovery 34% of the precipitation phase is dissolved.

We may assume that if we prevent recovery in the transition from low-temperature aging to high-temperature aging, then we will obtain alloys with more dispersed precipitations and greater strength. According to references [7--9], the effect of plastic deformation on the metastable coherent or partially coherent precipitations is manifested in the fact that part of the nuclei may be dissolved, and part stabilized. For example, the G. P. zones may shift to metastable precipitation. At moderate deformations, the effect of the solution of the nuclei may be insignificant in comparison with the effect of stabilization. Having increased the stability of the nuclei, we may prevent or decrease recovery if the alloys are strained after low-temperature aging before high-temperature aging. Aside from this, recovery may be decreased because of the appearance of new nuclei due to the ones dissolved during deformation.

In this work we set ourselves the problem of studying the effect of deformation between low-temperature and high-temperature aging on the structure and mechanical properties of alloy E1437B.

The structure of the alloy was investigated by the fine-foil electron-microscopic method. Measurements of hardness according to Vickers were performed, also measurements of the ultimate strength and yield points, elongation and compression. Heat treatment of the alloy consisted of annealing at 1080°C for eight hours and cooling in the air. In the interval of aging of 600--8500 the specimens were cooled at a rate of 100° per minute. The aging was accomplished at 700 and 850°. After different variations of heat treatment the specimens were strained by rolling.

Figure 1. Hardness of alloy E1437B in isothermic aging at 850°: (1) after preliminary aging at 700° for ten hours and straining by 20%; (2) after preliminary straining by 20% and aging at 700° for ten hours; (3) after aging at 700° for ten hours. (a) time, min.

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USSR

UDC 621.039.51

MADEYEV, V. G. and UKSUSOV, YE. I.

"Investigating Reactions $^{31}P(n, p)^{31}Si$ for Absolute Measurements of the Fast-Neutron Fluxes in Experiments on Reactors"

Moscow, Metrology of Neutron Radiation on Reactors and Accelerators, 71, p 120 (from RZh--Vadernyye Reaktory Otdel'nyy Vypusk, No 1, '72, Abstract No 1.50.90)

Abstract: Nuclear-physical characteristics of phosphorus are discussed which facilitate its application in measurements of the absolute fluxes of fast neutrons during the course of experimental research on nuclear reactors. The technology of the preparation of phosphorus indicators and a method of calibration based on a comparison of neutron emission from a radioactive source with the known spectral distribution and intensity are described. A counting device and method of measurement are described. Fields of application of the given method are indicated, and also both the accuracy of measuring fast-neutron flux magnitudes and the ways for improving it are analyzed.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--ELECTRON MICROSCOPY OF THE DNA OF BACTERIOPHAGE SW LYSING B(ACILLUS) SUBTILIS -U-

AUTHOR-(03)-NARODITSKIY, B.S., ULANOV, B.P., TIKHONENKO, T.I.

COUNTRY OF INFO--USSR

SOURCE--BIOFIZIKA 1970, 15(1), 187-9

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DNA, BACTERIOPHAGE, BACILLUS SUBTILIS, ELECTRON MICROSCOPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0021 STEP NO--UR/0217/70/015/001/0187/0189

CIRC ACCESSION NO--AP0105120

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5"

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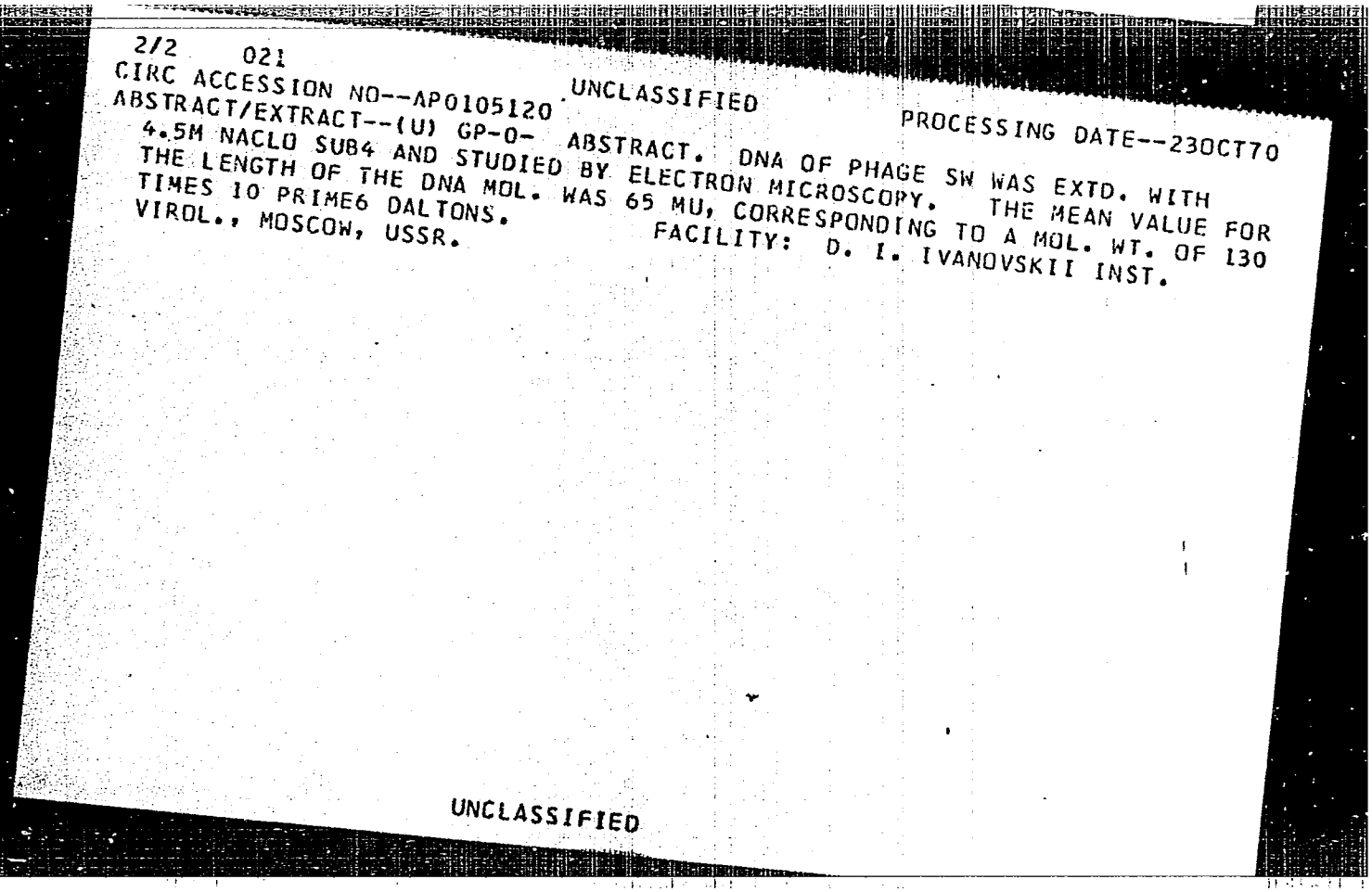

2/2 021 UNCLASSIFIED
CIRC ACCESSION NO--AP0105120 PROCESSING DATE--23OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DNA OF PHAGE SW WAS EXTD. WITH 4.5M NACLO SUB4 AND STUDIED BY ELECTRON MICROSCOPY. THE MEAN VALUE FOR THE LENGTH OF THE DNA MOL. WAS 65 MU, CORRESPONDING TO A MOL. WT. OF 130 TIMES 10 PRIME6 DALTONS.
VIROL., MOSCOW, USSR. FACILITY: D. I. IVANOVSKII INST.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

PETROV, B. N., PETROV, V. V., ULANOV, G. M., AGEYEV, V. M., ZAPOROZHETS, A. V., USKOV, A. S., KOCHUBIEVSKIY, I. D.

"Origin of the Information Theory of Control"

Tr. IV Vses. Soveshch. po Avtomat. upr., 1968. Teoriya Avtomat. upr. [Works of Fourth All-Union Conference on Automatic Control, 1968. The Theory of Automatic Control], Moscow, Nauka Press, 1972, pp 145-154, Discussion 256-262 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V277 by the authors).

Translation: This work studies the information characteristics of control processes of general form. The conclusion of information characteristics is based on thresholds of differentiability of states of an object of control at a given level of organization, introduced by the authors. The information conditions of basic modes of control and regulation are studied, including stabilization of the states of a control object, reproduction of required states and information conditions of invariance (absolute and with accuracy to ε). General equations are produced for the balance of enthalpy, corresponding to the basic modes of control. A general analogy is discovered between problems in statistical physics and information processes in control. Examples are presented of the design of control systems by the methods suggested. 12 Biblio. Refs.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 669.71.053.4.094

PREOBRAZHENSKIY, N. A., KHAVSKIY, N. N., YAKUBOVICH, I. A., SAMOYLOVA, L. I., KIRILLOV, O. D., ULANOV, V. I.

"Studies of the Influence of Ultrasound on the Process of Sulfuric Acid Leaching of Phosphorite"

Primeneniye Ul'trazvuka v Metallurg. Protsessakh [Use of Ultrasound in Metallurgical Processes -- Collection of Works], Moscow, 1972, pp 72-74, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G214 by the authors)

Translation: It is demonstrated that US oscillations, breaking down the film of phosphogypsum, intensify the process of sulfuric acid leaching of phosphorites. 1 Table.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 616.981.51-097.3-092.9.:599.323.4

SALTYKOV, R. A., LESHYAK, O. T., and ULANOVA, A. A., State Control Institute for Biomedical Preparations imeni Tarasevich, Moscow

"The White Mouse as an Immunological Model in Anthrax"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 8, 1971, pp 87-91

Abstract: Experiments were performed with random bred white mice to determine their suitability as an immunological model in anthrax. Active immunity was studied after single subcutaneous vaccination of the animals with live STI anthrax vaccine. Passive immunity was tested by injecting them subcutaneously with anti-anthrax serum or globulin derived from it. The results were analyzed by statistical methods. The mice were found to be useless as an experimental model for the evaluation of active postvaccinal immunity to anthrax. But vaccinated animals can be used to study specific passive immunity provided that they are inoculated with Tsenkovskiy's second vaccine (a suspension of spores from strain 71/12 which kills white mice in 24 to 72 hours). Earlier published reports on the subject are critically analyzed.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 023 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--A STUDY OF THE SPECIFICITY OF ANTHRAX TOXIN OBTAINED IN VITRO -U-

AUTHOR-(02)-FEDOTOVA, YU.M., ULANOVA, A.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3, PP 111-113

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTHRAX, BACTERIAL TOXIN, ENCEPHALITIS, MEASLES, BRUCELLOSIS, DIPHTHERIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1494

STEP NO--UR/0016/70/000/003/0111/0113

CIRC ACCESSION NO--AP0109554

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

2/2 023 UNCLASSIFIED

CIRC ACCESSION NO--AP0109554 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDIED THE SPECIFICITY OF ANTHRAX OBTAINED IN VITRO ON SEMISYNTHETIC NUTRIENT MEDIUM ELABORATED BY THE AUTHORS. SMITH'S METHOD WAS USED FOR THIS PURPOSE (THE ACTIVITY OF ANTHRAX TOXIN WAS DETERMINED BY ITS INTRADERMAL INJECTION). THE RESULTS OF THIS REACTION WAS ASSESSED BY OEDEMA INDEX SUGGESTED BY THE AUTHORS. IT APPEARED THAT THE TOXIN WAS NEUTRALIZED ONLY WITH SPECIFIC GLOBULIN OF THE THERAPEUTIC ANTHRAX SERUM AND THAT ITS ACTIVITY PERSISTED AFTER ADDITION OF THERAPEUTIC SERUM PREPARATIONS AGAINST DIPHTHERIA, TETANUS, GAS GANGRENE, BRUCELLOSIS, TICK BORNE ENCEPHALITIS AND MEASLES. THUS, A STRICT SPECIFICITY OF ANTHROX TOXIN OBTAINED IN VITRO WAS DEMONSTRATED.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

Immunology

USSR

UDC: 615.363.6:576.851.511/.036.8

FEDOTOVA, YU. M. and ULANOVA, A.A., Control Institute for Biomedical Preparations imeni Tarasevich

"Study of the Specific Antitoxic Activity of Therapeutic Antianthrax Globulin"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 2, 1970, pp 47-51

Abstract: The antitoxic activity of antianthrax globulin produced in the USSR was determined by a method suggested by H. Smith el al. (1955). The method is based on neutralization of the pathological effect of anthrax toxin, which causes hyperemia and edema in guinea pigs when administered intradermally. The results are expressed as the ratio of the thickness of the skin fold at the edema site to the thickness of the fold of healthy skin in the same animal. Experiments showed that the titer of the antitoxic activity of all 22 series of globulins tested ranged from 10^{-3} to 10^{-4}. The findings are consistent with clinical observations which indicate that the intensity of both systemic and local pathological symptoms of anthrax diminishes within 24 hours of administration of the serum.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

Acc. Nr: AP0043865

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 2, pp 47-51

A STUDY OF SPECIFIC ANTITOXIC ACTIVITY OF THERAPEUTIC GLOBULIN AGAINST ANTHRAX

Yu. M. Fedotova, A. A. Ulanova

The authors studied the antitoxic activity of therapeutic globulins against anthrax produced in the USSR. A method of neutralization of anthrax toxin in the skin of guinea pigs was used. The globulins under study proved to possess a high antitoxic activity — they neutralized the standard toxin dose in a dilution of 10^{-3}—10^{-4}.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 030 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--DEPENDENCE OF CORPUSCULAR RADIATION INTENSITY IN THE UPPER ATMOSPHERE ON SOLAR ACTIVITY -U-

AUTHOR-(04)-TULINOV, V.F., MOYSEYEV, YU.N, SHAPIRO, I.G., ULANOVA, L.A.

COUNTRY OF INFO--USSR

SOURCE--KOSMICHESKIE ISSLEDOVANIIA, VOL. 8, MAR-APR. 1970, P 307-309

DATE PUBLISHED-------70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, ATMOSPHERIC SCIENCES

TOPIC TAGS--SOLAR ACTIVITY, RADIATION INTENSITY, SOLAR CORPUSCULAR RADIATION, UPPER ATMOSPHERE, GEIGER COUNTER, GEOMAGNETIC DISTURBANCE, ATMOSPHERIC SOUNDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1762 STEP NO--UR/0293/70/008/000/0307/0309

CIRC ACCESSION NO--AP0115591

UNCLASSIFIED

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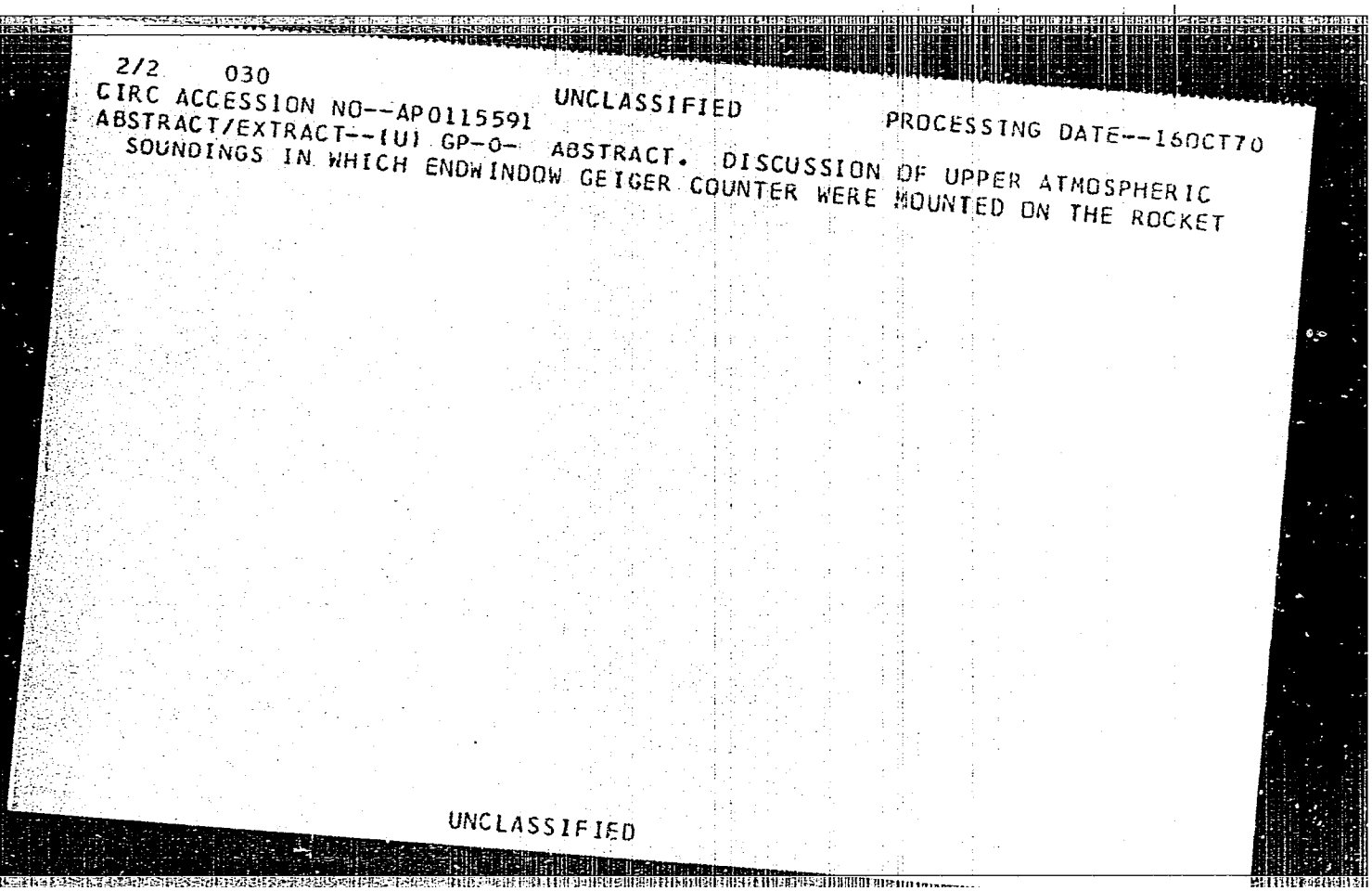

2/2 030 UNCLASSIFIED
CIRC ACCESSION NO--AP0115591 PROCESSING DATE--16OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF UPPER ATMOSPHERIC SOUNDINGS IN WHICH ENDWINDOW GEIGER COUNTER WERE MOUNTED ON THE ROCKET

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

SHPIRT, V.A., ULANOVSKIY, E.N.

UDC 621.382.2

"Investigation Of The Thermal Characteristics Of Semiconductor Limiter Microwave Diodes"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductor Devices And Their Application--Collection Of Works), Vyp 23, Moscow, "Sov.radio," 1970, pp 227-237 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11B97)

Translation: The method of computation is discussed for the thermal processes in a semiconductor diode with a mesa structure, taking into account the heat removal from the p-n junction at both sides during continuous and pulse regimes. A method is described for measurement of the instantaneous values of the temperature of a p-n junction in the course of its heating and cooling. It is shown that the thermal resistance of a limiter semiconductor diode amounts to ~75 degree/watt, and within wide limits its pulse thermal resistance is described by the formula

$$R_{ti} = 3.10^3 \sqrt{t_i},$$

where t_i is the pulse duration of microwave power in seconds (for a semiconductor diode with a 100 micrometer diameter of the mesa structure). The experimentally determined dependence of the p-n junction temperature of a limiter microwave diode on the pulse duration agrees satisfactorily with the computations. 5 ill. 1 tab. 6 ref. Summary.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC: 620.193.27

KOROVIN, Yu. M., ULANOVSKIY, I. B., Institute of Physical Chemistry, Academy of Sciences of the USSR

"Corrosion of Nickel, Some of its Alloys, and Stainless Steel in Clearances in Sea Water"

Moscow, Zashchita Metallov, Vol 9, No 3, May/Jun 73, pp 309-311

Abstract: The authors investigate sea water corrosion of nickel, some nickel alloys and stainless steel in gaps. Over a three month period grade N-1 nickel is corroded in gaps 15 times more intensively than the free surface, the maximum depth of pits being 0.1 and 0.3 mm after 3 and 5 months testing. The increased corrosion in gaps is due to the more negative potential of nickel under these conditions because of reduced oxygen concentration. It was found that Kh23N18 steel is considerably less susceptible to corrosion than Kh25 steel, while among the alloys, the most resistant to corrosion is KhN38VT.

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ULANOVSKIY, I.B.

NAVINTEL TRANS-3446-73

DEPARTMENT OF THE NAVY
NAVAL INTELLIGENCE SUPPORT CENTER
TRANSLATION DIVISION
4301 SUITLAND ROAD
WASHINGTON, D.C. 20390

CLASSIFICATION: UNCLASSIFIED

APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

TITLE: Efficient Use of Cathodic Protection of Steel in Sea Water

O ratsional'nom primenenii katodnoy zashchity stali v morskoy vode

AUTHOR(S): Ulanovskiy, I. B.

PAGES: 5

SOURCE: Zashchita metallov, Vol. 8, No. 2, 1972
Pages 213-215

ORIGINAL LANGUAGE: Russian

TRANSLATOR: LD

NISC TRANSLATION NO. 3446

APPROVED P.T.K.

DATE 20 June 1973

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 620.197.5

ULANOVSKIY, I. B., Institute of Physical Chemistry, Academy of Sciences USSR

"Efficient Use of Cathodic Protection of Steel in Sea Water"

Moscow, Zashchita metallov, Vol 8, No 2, Mar-Apr 72, pp 213-216

Abstract: This study concerns the effect of lime films formed on the surface of metals on the cathodic protection of carbon steel in sea water. As the film is formed, the current density essential to maintain the protection potential gradually decreases. After the film has been formed, the cathodic protection may be effected by either periodic polarization or by continuous polarization using low current density. The experimental results include the effects of current density and polarization time on the total content of hydroxyl ions in the lime film and in the water contained in the film pores, the effect of Ph on the electrode potential, changes in the potential of St. 3 steel after cutting off the pro-

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

ULANOVSKIY, I. B., Zashchita metallov, Vol 8, No 2, Mar-Apr 72, pp 213-216

tective current. Excessively high cathodic current density appears to reduce the protection effect. The potential of the structure (being protected) should be maintained as close as possible to the protection level by appropriately lowering the current density. (1 illustr., 1 table, 8 biblio. ref.)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC: 620.193.43

ULANOVSKIY, I. B., Institute of Physical Chemistry, Academy of Sciences USSR

"Cathodic Protection of Aluminum in Sea Water"

Moscow, Zashchita Metallov, Vol 6, No 5, Sep-Oct 70, pp 600-602

Abstract: There are contrasting views on the effectiveness of cathodic protection of aluminum. According to some, it is advisable in acid media and according to others -- also in neutral media but with weak polarization. In this experiment the tests were conducted on AV-000 aluminum and AMts alloys in the water of the Black Sea. The potentials are given for normal hydrogen equivalents. The factors affecting the results were temperature, pH, and the movement of water. The protective film on aluminum which develops in open air is destroyed by sea water and is replaced by a new protective film. The tests indicate the effectiveness of cathodic protection at 20°C; at a higher temperature the potential of aluminum, even without polarization, is close to negative values: for

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ULANOVSKIY, I. B., Zashchita Metallov, Vol 6, No 5, Sep-Oct 70, pp 600-602

example -- at 25°C it is about -1.0 v for AV-000 aluminum. The temperature effect is more pronounced for pure aluminum than for its alloys. Cathodic protection is more effective up to pH 8.2; at a higher pH the potential before polarization is -0.9 v. The movement of water markedly decreases the effectiveness of cathodic protection of AV-000 aluminum and to a lesser extent that of AMts.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 532.545+615.843

ULASHCHIK, V. S., Belorussian Institute of Neurology, Neurosurgery, and Physical Therapy

"Role of Some Physicochemical Parameters of Ions in Ionophoretic Permeability of Living Skin"

Minsk, Doklady Akademii nauk BSSR, No 10, 1973, pp 965-967

Abstract: The effect of size and charge on ions on their penetration through human skin during electrophoresis with solutions of chlorides, bromides, iodides of metals, hyaluronidase, hexamethonium, etc. and some amino acids was studied. An increase in radius reduced the ionophoretic permeability of the ions, whether uni, bi-, or trivalent. Valence significantly affected electrophoresis. With an increase in the latter, the cation transport by means of the galvanic current markedly decreased. As in the case of the cations, the ionophoretic permeability of the skin decreased with increasing size of the anion. Investigation of electrophoresis of proteins and amino acids showed that they penetrated through the skin in much larger quantities in cationic form than in anionic form. Thus, ion transport across living skin does not follow electrolytic laws. The extent of deviation varies with the physicochemical characteristics of the ions and it

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

ULASHCHIK, V. S., Doklady Akademii nauk BSSR, No 10, 1973, pp 965-967

increases with increasing radius and valence. Experiments on dead skin failed to reveal a clear-cut relationship between its ionophoretic permeability and the physicochemical characteristics of the ions.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

Pharmacology and Toxicology

USSR

UDC: 543.545+615.843

BANDARIN, V. A., KOLB, V. G., and ULAShChIK, V. S.

"Studying the Effect of Biologically Active Materials on the Permeability of Skin"

Minsk, Doklady Akademii nauk BSSR, No 3, 1973, pp 283-285

Abstract: Results are given of an investigation into the effect of several bioactive compounds on the permeability of human skin. For this study, the ionophoresis method was used in the way specified in an earlier paper (V. G. Kolb, Avtoref. kand. kiss., Minsk, 1959) with the standard mode of 0.3 mA/cm^2 current density and an operating period of 20 minutes. A formula is given for the coefficient of ion ophoretic skin permeability, a factor characterizing the degree of penetration of material from the outside medium into the organism in terms of the quantity of electricity, the equivalent of the introduced ion, and the weight of the admitted material. Tables are given of the effect of hyaluronidase and urotropin on this factor and the changes in the factor wrought by acetylcholine, novocain, and chlorethane. It is found that the effect of biologically active materials on the factor depends on the pharmacological activity of the material and the physical-chemical parameters of the introduced ions.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--SEPARATION OF MONORIBONUCLEOTIDES ON THE ANION EXCHANGER AV-17 -U-

AUTHOR-(05)-ULASTE, V., LAZDINS, I., BANDERE, R., SMORODINA, I.V., AVOTS, A.

COUNTRY OF INFO--USSR

SOURCE--PRIKL. BIOKHIM. MIKROBIOL. 1970, 6(1), 90-4

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--YEAST, NUCLEOTIDE, RNA, ION EXCHANGE CHROMATOGRAPHY/(U)AV17 ANION EXCHANGER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0611 STEP NO--UR/0411/70/006/001/0090/0094

CIRC ACCESSION NO--AP0117839

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

2/2 010 UNCLASSIFIED

CIRC ACCESSION NO--AP0117839 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ALK. HYDROLYZATES OF YEAST RNA WERE SEPD. WITH A HCL GRADIENT ON THE ANION EXCHANGER AV-17 IN THE CL PRIME NEGATIVE FORM (CROSS SECTIONAL AREA OF THE COLUMN 0.07 CM PRIME2, HEIGHT 4-6 CM, AMT. OF RNA HYDROLYZATE SEPD. 10-20PERCENT OF THE EXCHANGER CAPACITY, ELUTION VELOCITY IS SIMILIAR TO 3 ML-MIN-CM PRIME2). TO IMPROVE THE SEPN. PROCESS EQUATIONS WERE DERIVED WHICH RELATE THE SEPN. CAPACITY AND QUALITY TO THE ELUTION RATE, GRADIENT CHARACTERISTIC, AND AMT. OF HYDROLYZATE INTRODUCED. FACILITY: INST. ORG. SYN., RIGA, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 621.762.2.001

NATANSON, E. M., UL'BERG, Z. R.

"Colloidal Metals and Metal-polymers"

Kolloidnye Metally i Metallopolimery [English Version Above], Kiev, Nauk. Dumka Press, 1971, 348 pages (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G450 K from the Resume).

Translation: Results are presented from studies in the areas of formation of colloidal metal particles, as well as the theoretical principles of modern methods of their production in powder form in various media. The general principles of formation of metal polymers and basic methods of their production are given. Results are presented from studies of various properties of metal polymers, and methods in the areas of their application are indicated.

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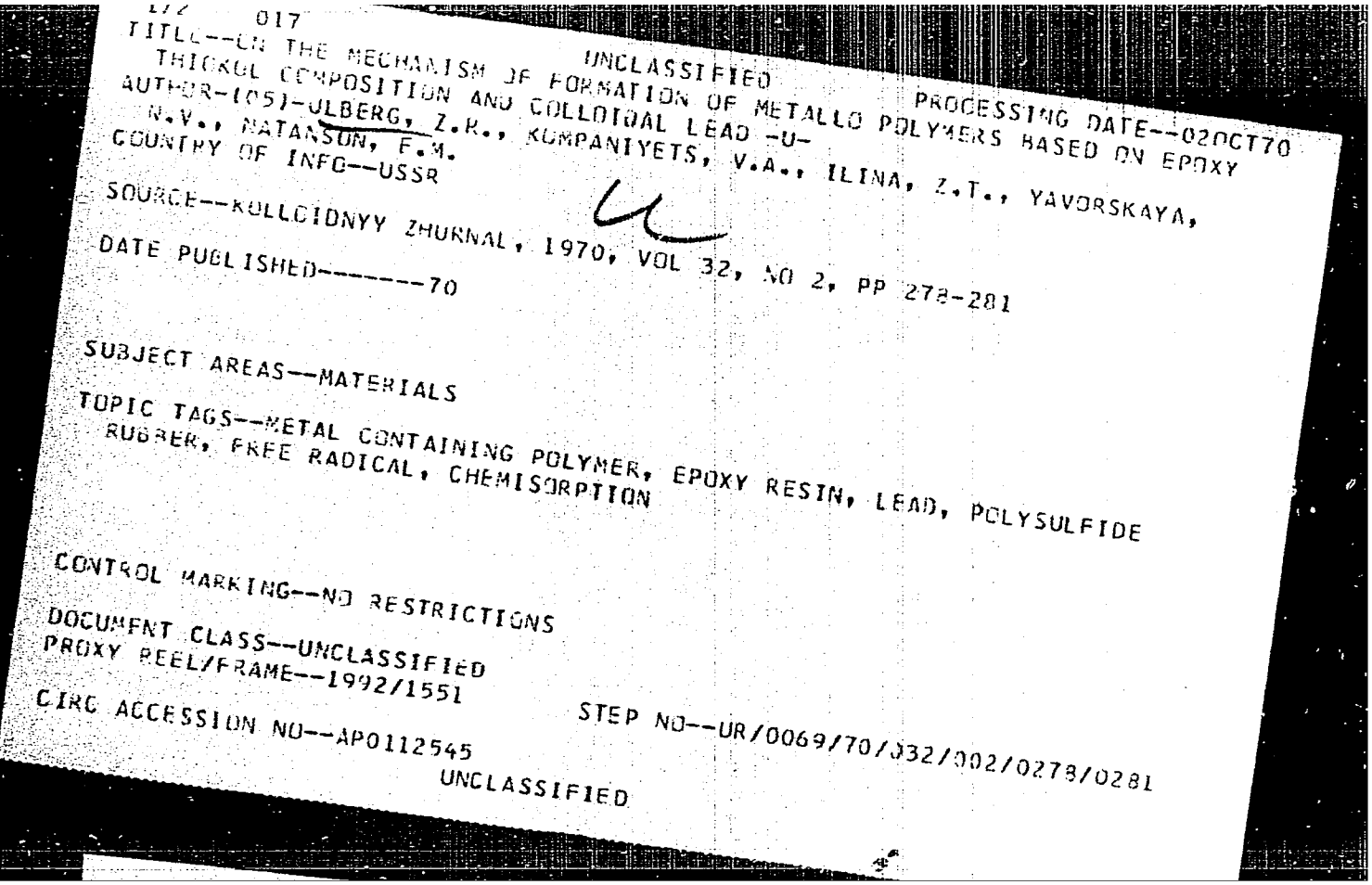

1/2 017 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--ON THE MECHANISM OF FORMATION OF METALLO POLYMERS BASED ON EPOXY THIOKOL COMPOSITION AND COLLOIDAL LEAD -U-
AUTHOR-(05)-ULBERG, Z.R., KOMPANIYETS, V.A., ILINA, Z.T., YAVORSKAYA, N.V., NATANSON, E.M.
COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NO 2, PP 278-281

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METAL CONTAINING POLYMER, EPOXY RESIN, LEAD, POLYSULFIDE RUBBER, FREE RADICAL, CHEMISORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1551
STEP NO--UR/0069/70/032/002/0278/0281
CIRC ACCESSION NO--AP0112545
UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5"

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2/2 017 UNCLASSIFIED

CIRC ACCESSION NO--AP0112545 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION OF AN EPOXY THIOKOL MIXTURE WITH COLLOIDAL LEAD DURING ITS THERMAL FORMATION INVOLVES THE APPEARANCE IN THE SYSTEM OF FREE RADICALS AT THE TEMPERATURE 240 PLUS OR MINUS 10DEGREES. THE INTERACTION BETWEEN THE EPOXY THIOKOL MIXTURE AND THE SURFACE OF COLLOIDAL LEAD IS OF A CHEMISORPTIVE NATURE. THE TEMPERATURE CONDITIONS OF PREPARATION OF METALLO POLYMERS BY THE THERMAL METHOD HAVE BEEN ESTABLISHED. THE DEGREE OF SWELLING OF METALLO POLYMERS DECREASES WITH RISING METAL CONCENTRATION.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 009 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--OXIDATION OF 1,4, DIHYDROPYRIDINES -U-

AUTHOR-(02)-DURBURS, G., ULDRIKIS, J.

U

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETERGISKI SOEDIN. 1970, (1), 83-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--OXIDATION, PYRIDINE, KETONE, POLYNUCLEAR HYDROCARBON, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1677

STEP NO--UR/0409/70/000/001/0083/0083

CIRC ACCESSION NO--AP0104877

UNCLASSIFIED

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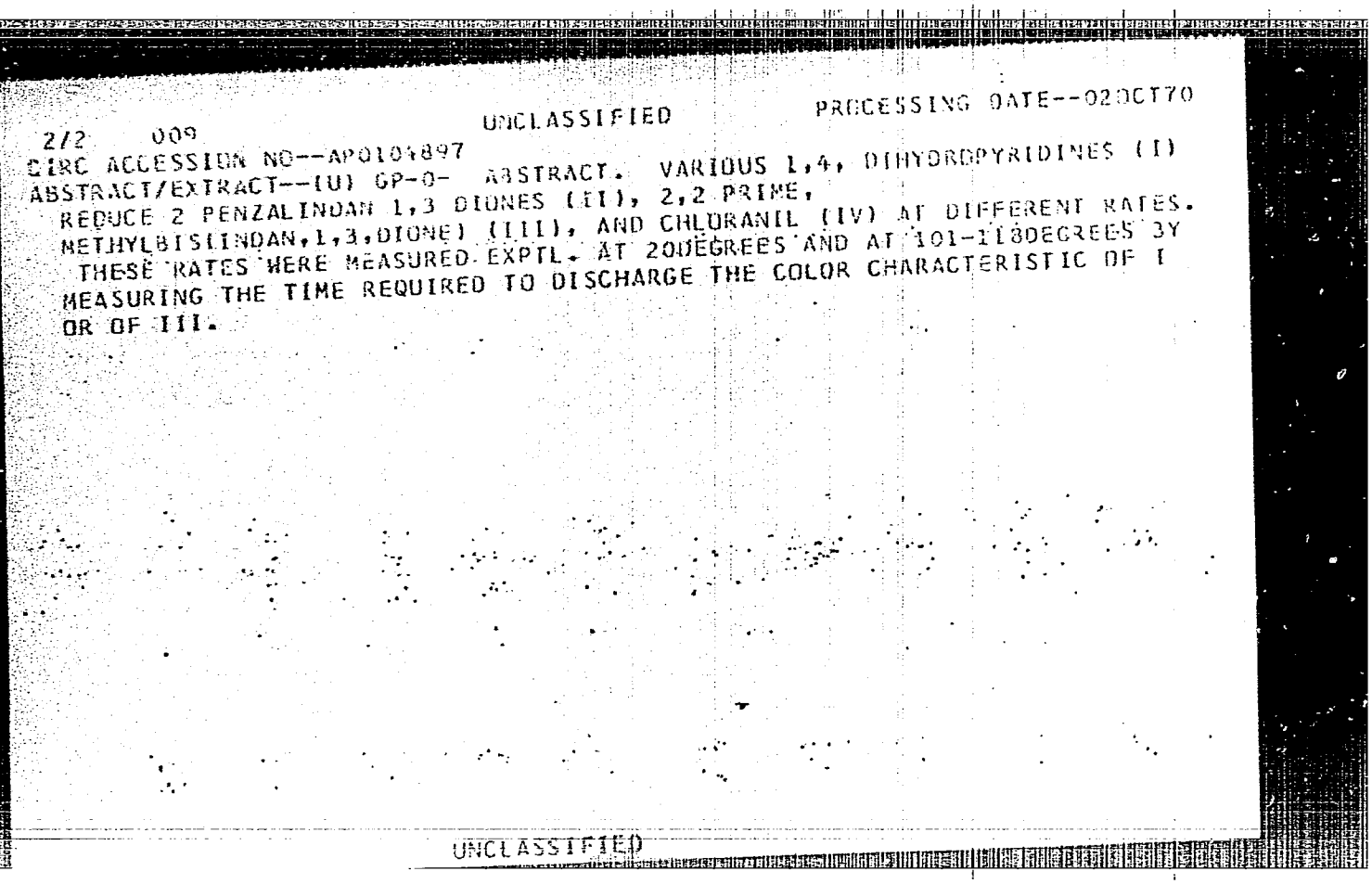

UNCLASSIFIED PROCESSING DATE--02OCT70

2/2 009

CIRC ACCESSION NO--AP0104897

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VARIOUS 1,4, DIHYDROPYRIDINES (I) REDUCE 2 PENZALINDAN 1,3 DIONES (II), 2,2 PRIME, METHYLBIS(INDAN,1,3,DIONE) (III), AND CHLORANIL (IV) AT DIFFERENT RATES. THESE RATES WERE MEASURED EXPTL. AT 20DEGREES AND AT 101-118DEGREES BY MEASURING THE TIME REQUIRED TO DISCHARGE THE COLOR CHARACTERISTIC OF I OR OF III.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--INFLUENCE OF VARIOUS CARBON SOURCES ON THE FORMATION OF CELLULOLYTIC ENZYMES BY TRICHODERMA SPECIES 18 SUB5 -U-

AUTHOR-(03)-FENIKSOVA, R.V., ULEZLO, I.V., SHALAMBERIDZE, N.G.

COUNTRY OF INFO--USSR

SOURCE--SOOBSHCH. AKAD. NAUK GRUZ. SSR 1970, 57(3), 689-92

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FUNGUS, CONTINUOUS CULTURE, CULTURE MEDIUM, ENZYME, BIOSYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1967 STEP NO--UR/0251/70/057/003/0689/0692

CIRC ACCESSION NO--AP0137146

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

2/2 021 UNCLASSIFIED

CIRC ACCESSION NO--AP0137146 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CULTURING TRICHODERMA 18 SUB5 ON A MIXT. OF 2PERCENT BEET JUICE AND 2PERCENT WHEAT BUTTS RESULTED IN GOOD PRODUCTION OF CELLULASE. LESS EFFECTIVE WAS A MIXT. OF WHEAT BUTTS AND SUNFLOWER HUSKS. COTTON, PAPER, GLUCOSE, LACTOSE, AND STARCH WERE POOR STIMULATORS OF CELLULASE PRODUCTION.

FACILITY: INST. BIOKHIM. IM. BAKHA, MOSCOW, USSR.

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AZIMOV, S. A., MYALKOVSKIY, V. M., MURITDINOV, Kh., RASULKULOV, N. S.,
ABDULLAYEV, A. M., BEYSEMBAYEV, R. U., GAVRILIN, Ye. V., TALIPOV, D. A.,
MULLAZHONOV, E. Zh., TILLAYEV, T., RAKHMANOV, Zh., UMEROV, R.,
ULIMAYEVA, F. A., KHEN, E., YULDASHBAYEV, T. S., Institute of Nuclear
Physics of the Academy of Sciences Uzbek SSR

"Study of the Characteristics of High-Energy Interactions of Pions and Nucleons"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol. 36, No. 8, Aug 72, pp 1626-1631

Abstract: Experimental data obtained at the Kum-Bel' High-Altitude Station of the Physicotechnical Institute of the Academy of Sciences Uzbek SSR are reported. The station is 3200 m above sea level. The setup contains three series of wide-gap spark chambers with effective areas of 2 m^2 placed above and below the target. The Cerenkov spectrometer with total absorption and an ionization calorimeter with an area of 10 m^2 were used to measure the primary energy E_0. Up to the present time experimental data obtained over 630 hours of operation of the device have been processed, with a high-voltage pulse being supplied to the electrodes of the spark chambers. Showers with an energy of > 200 Gev generated in the target were selected for analysis. The following ratio was obtained for the number

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USSR

AZIMOV, S. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 36, No 8, Aug 72, pp 1626-1631

of primary charged N_c and neutral N_n particles: $N_c/N_n = 2.3 \pm 0.3$; this shows that the proportion of charged particles is ~34% of all nuclear active particles, thus making it possible to study pion-nuclear collisions by comparing the characteristics of the interaction of charged and neutral primary particles. A weak functional dependence between the inelasticity coefficient $\langle K_{\pi^0} \rangle$ and the atomic number of the target nucleus and a strong functional dependence between this coefficient and the nature of the primary particles were obtained for interactions of hadron with $E_0 > 200$ Gev. $\langle n_s \rangle$ is almost a logarithmic function of E_0. The average multiplicity in the interaction of pions with neutrons in paraffin is identical within the experimental limit. A considerable azimuthal effect was observed for the angular distribution of secondary particles. The azimuthal effect has its greatest value for showers with n_s = 8-15, or a multiplicity close to average.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 037 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--STATISTICAL EQUATIONS OF TURBULENT MOTION IN LAGRANGE VARIABLES -U-

AUTHOR-(02)-LYUBIMOV, B.YA., ULINICH, F.R.

COUNTRY OF INFO--USSR

SOURCE--PRIKLADNAIA MATEMATIKA I MEKHANIKA, VOL. 34, JAN.-FEB. 1970, P. 24-31

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--TURBULENT FLOW, FLOW ANALYSIS, STATISTIC ANALYSIS, LAGRANGE EQUATION, VELOCITY DISTRIBUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1564

STEP NO--UR/0040/70/034/000/0024/0031

CIRC ACCESSION NO--AP0106310

UNCLASSIFIED

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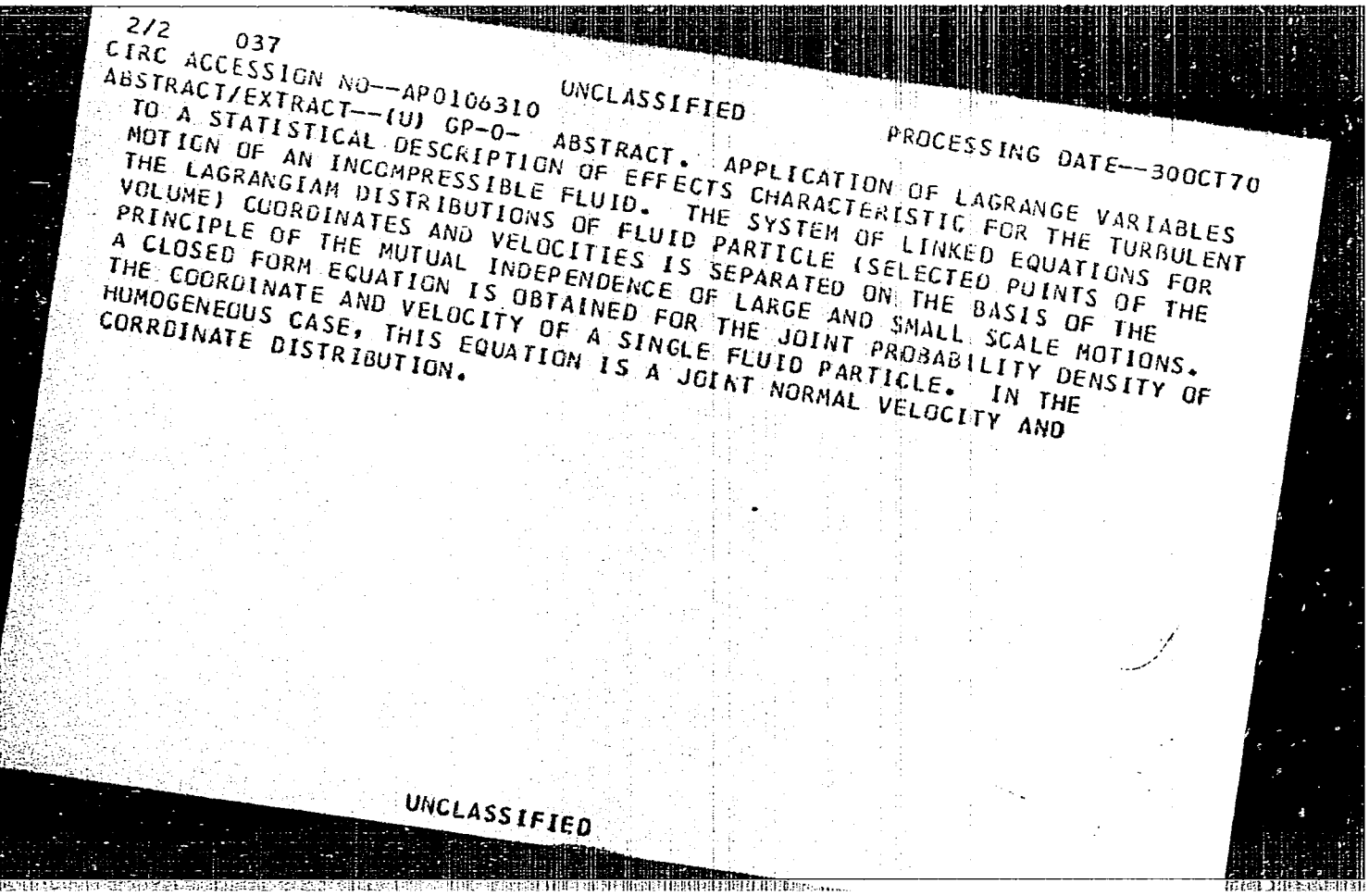

2/2 037
CIRC ACCESSION NO--AP0106310 UNCLASSIFIED
PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. APPLICATION OF LAGRANGE VARIABLES TO A STATISTICAL DESCRIPTION OF EFFECTS CHARACTERISTIC FOR THE TURBULENT MOTION OF AN INCOMPRESSIBLE FLUID. THE SYSTEM OF LINKED EQUATIONS FOR THE LAGRANGIAM DISTRIBUTIONS OF FLUID PARTICLE (SELECTED POINTS OF THE VOLUME) COORDINATES AND VELOCITIES IS SEPARATED ON THE BASIS OF THE PRINCIPLE OF THE MUTUAL INDEPENDENCE OF LARGE AND SMALL SCALE MOTIONS. A CLOSED FORM EQUATION IS OBTAINED FOR THE JOINT PROBABILITY DENSITY OF THE COORDINATE AND VELOCITY OF A SINGLE FLUID PARTICLE. IN THE HOMOGENEOUS CASE, THIS EQUATION IS A JOINT NORMAL VELOCITY AND CORRDINATE DISTRIBUTION.

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USSR

ULINICH, R. B., Member of the Scientific and Technical Society of Radio Engineering, Electronics and Communicattions imeni A. S. Popov

UDC: 621.396.6.019.3

"On Accounting for Correlation When Predicting the Reliability Parameters of Radio Equipment"

Moscow, Radiotekhnika, Vol 27, No 7, Jul 72, pp 76-78

Abstract: The author considers two limiting cases of correlation between the parameters of similar elements in a piece of electronic equipment, and proposes a method of predicting the sudden failure rate of integrated circuits with correlation taken into account. It is found that increasing the degree of integration and a changeover to large-scale integration with the elimination of nonmodular components considerably improves equipment reliability. Prospects of integration for hybrid integrated circuitry are limited since in this case increased volume and complexity raises the failure rate. Redundancy to improve reliability is feasible only for "auxiliary" (nonmodular) elements, but not for the "main" elements of an integrated circuit.

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USSR

UDC: 621.317.335.3

GRUBNIK, N. N., ULINICH, R. B., TUCHINSKIY, A. M.

"Principle of Operation of an Installation for Measuring ε and tanδ of Heat Resistant Insulation in the 400-3000 Hz Frequency Range at Voltages of up to 10 kV, and a Measurement Procedure"

Tr. Mosk. elektrotekhn. in-ta svyazi (Works of the Moscow Electrical Engineering Institute of Communications), 1970, vyp., pp 178-183 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11A307)

Translation: The authors point out the drawbacks of existing equipment which preclude measurement of the properties of dielectrics simultaneously at high voltages (up to 10 kV) and high frequency (up to 3 kHz). A measurement method is proposed which is based on using phase relationships in a resonance circuit assuming excitation from a current generator. The resonance circuit in the device combines the functions of the fundamental element of the measurement circuit and those of a high-voltage generator (transformer). The circuit of the installation is given together with the fundamental relationships in the circuit. The results of the studies are exemplified by graphs of tanδ as a function of voltage at various temperatures and for specimens of two dielectrics at a frequency of 1.2 kHz. Three illustrations. E. L.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

Power

UDC 621.311.25:621.039

ULITICHEVA, V. N.

"Problem of Selecting the Type of Reactor for Atomic Fresh Water Plants"

Nauchn. tr. Mosk. inzh.-ekon. in-t (Scientific Works of Moscow Engineering and Economics Institute), 1970, vyp 29, 103-110 (from RZh-Elektrotekhnika i Energetika, No 5, May 1971, Abstract No 5A119)

Translation: The study performed by the correlation analysis method permitted establishment of the basic economic indexes of thermal neutron atomic electric power plants: the dependence of the specific capital expenditures and the cost of electric power on the unit power of the modules, the net efficiency and the depth of burn-up of the nuclear fuel. The economic advantages of atomic electric power plants with water-cooled, water-moderated boiling reactors by comparison with the thermal neutron reactors of other systems are discovered. The construction of power plants for desalinization of sea water based on atomic electric power plants with thermoneutron reactors planned in the near future is possible only under the condition of a high degree of concentration of the unit power of the units and stations as a whole. There are 4 illustrations, 4 tables and a 5-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

ULITICHEVA, V. N.

UDC 621.311.25:621.039

"On the Problem of Selecting a Reactor Type for Atomic Distillation Installations"

Moscow, Nauchn Tr. Mosk. Inzh.-Ekon. In-T (Scientific Works of the Moscow Engineering-Economic Institute), 29th edition, 1970, pp 103-110 (from Referativniy Zhurnal - Thermal Power, No. 5, May 71, Abstract No. 5U119 by A. M. Bovshovskiy

Translation: A study by the correlation analysis method established the fundamental economic factors for atomic power stations using thermal neutrons: the unit capital expenditure and cost of electrical power as a function of power unit size, net efficiency and degree of combustion of the nuclear fuel. The advantage of an atomic power station with water-boiling water reactors over other types of thermal neutron reactor systems was brought out. The construction of sea water distillation installations based on atomic power stations with thermal neutron reactors planned for the next few years is possible only if there is a high degree of concentration in terms of the unit power of the installation and of the station as a whole.

Four illustrations, four tables, five bibliographic entries.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

SKRIPKA, V. I. and ULITKO, A. F., Institute of Mechanics, Ukrainian SSR

UDC 539.319

"The Equilibrium of a Paraboloid of Revolution Loaded at the Peak by a Concentrated Axial Force"

Kiev, Prikladnaya Mekhanika, Vol 9, No 5, May 1973, pp 10-15

Abstract: A numerical analysis is conducted of the stress distribution in an elastic, homogeneous, isotropic paraboloid of revolution loaded at the peak by a concentrated axial force. The analysis is based upon formulas for the exact solution of an axisymmetrical boundary-value problem for a paraboloid of revolution. An investigation is made of the particular nature of the stressed state under a concentrated force. Asymptotic expressions are obtained for stresses at infinity in an elastic paraboloid. 1 figure. 1 table. 5 references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 539.3:534.1

GRINCHENKO, V. T., ULITKO, A. F., (Kiev), Institute of Mechanics, Ukrainian SSR

"A Dynamic Problem in Elasticity Theory for a Rectangular Prism"

Kiev, Prikladanay Mekhanika, Vol 7, No 9, Sep 71, pp 50-56

Abstract: The article deals with a two-dimensional problem of elasticity theory concerning the oscillations of a rectangular prism or of a rectangular plate. The aim of the work is to demonstrate, on the basis of the most simple examples, a sufficiently general method of solving dynamic boundary-value problems in the theory of elasticity of bodies of finite dimensions. On the basis of a specific example are shown possible ways of obtaining the quantitative characteristics and the dynamic tension of an elastic body. Intervals are obtained for the first natural frequencies of a square prism. One table, seven references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 534.232.46-8

KOLOMIYETS, G.A., ULITKO, A.F.

"Bound Electroresilient Vibrations Of Piezoceramic Bodies"

V sb. Teplovyye napryazh. v elementakh konstruktsiy (Thermal Stresses In Construction Elements -- Collection Of Works), No 8, Kiev, "Nauk. dumka," 1969, pp 15-24 (from RZh--Elektronika i yeye primeneniye, No 7, July 1970, Abstract No 7A341)

Translation: Linearized equations are developed for bound electroresilient vibrations of piezoceramics polarized in advance, on the basis of the electrostrictional phenomenological theory of Masson [Mezon]. The system of equations is solved with the boundary conditions on the surface of the body taken into account; the vectors are determined of the exterior mechanical stresses (or transfers) and the difference of the potentials of the electric field. The equations obtained are used for a solution of the dynamic stresses of flat and cylindrical sectionalized emitters. The flat emitter is a plate with electrodes located at the end faces; the cylindrical emitter is a short hollow circular cylinder which consists of a series of wedge-shaped prisms of equal length and width and joined to the contact flat surfaces. Numerical computations of the amplitude values of the stresses were made for the PZT-4 [as printed--trans.] ceramic. The constant integrations and amplitude values of the stresses were computed on the BESM-2M. The results of the computations are presented in figures. 3 ill. 8 ref. L.T.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

GUBENKO, V. S., ULITKO, A. F. UDC 539.3

"Mixed Problems in Elasticity Theory for a Half-Space and a Layer With Several Circular Boundary Condition Interfaces"

V sb. Kontaktn. zadachi i ikh inzhenern. prilozh. Dokl. konferentsii (Contact Problems and Their Engineering Applications. Conference Papers -- Collection of Works), Moscow, 1969, pp 31-40 (from RZh-Mekhanika, No 5, May 70, Abstract No 5V37)

Translation: Papers on the problems indicated in the title are surveyed. Particular attention is given to mixed problems with an annular zone of separation of boundary conditions. Various approaches to their solution are presented and a group of integral transformations for reducing axisymmetric mixed problems to certain plane mixed problems is described. The method of p-analytic functions is indicated as another related approach. A technique is briefly presented that is based on applying Hankel and Meler-Fok integral transformations in conjunction with triple and double integral equations. It was shown that through the use of any of these approaches these mixed problems reduce to certain Fredholm integral equations

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

GUBENKO, V. S., ULITKO, A. F., Kontaktn. zadachi i ikh inzhenern. prilozh. Dokl. konferentsii, Moscow, 1969, pp 31-40

of the second type (or of the Fredholm type) with symmetric kernels. Abstracters note: Mixed problems with an annular zone of separation of boundary conditions can also be reduced to integral equations of the first order with different irregular kernels. There are at the present time well developed asymptotic methodsfor solving such equations. For example, we note that the integral equation for the axisymmetric problem of an annular stamp

$$\int_1^a \Psi(\rho)\,\rho\,d\rho \int_0^\infty J_0(u\varphi)\,J_0(ur)\,du = g(r)\quad (1 < r < a)$$

can be reduced to the equation

$$\int_{-1}^{1} \varphi(\xi)\,d\xi \int_0^\infty \frac{\Gamma\left(\frac{1}{4}+iu\right)\Gamma\left(\frac{1}{4}-iu\right)}{\Gamma\left(\frac{3}{4}+iu\right)\Gamma\left(\frac{3}{4}-iu\right)} \times \cos[u\alpha(\xi-x)]\,du = f(x)\quad (|x|<1,\ \alpha=\ln a)$$

V. M. Aleksandrov.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 011 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--SPECIFIC CHARACTERISTICS OF THE STRESSED STATE OF A RIGIDLY CLAMPED CIRCULAR PLATE -U-

AUTHOR--GRINCHENKO, V.T., ULITKO, A.F.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK UKRAINS'KOI RSR, DOPOVIDI, SERIIA A, FIZIKO, TEKHNICHNI I MATEMATICHNI NAUKI, VOL. 32, FEB. 1970, P. 162-164

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--STRESS DISTRIBUTION, CIRCULAR PLATE, BIBLIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0290 STEP NO--UR/0441/70/032/000/0162/0164

CIRC ACCESSION NO--AT0108588

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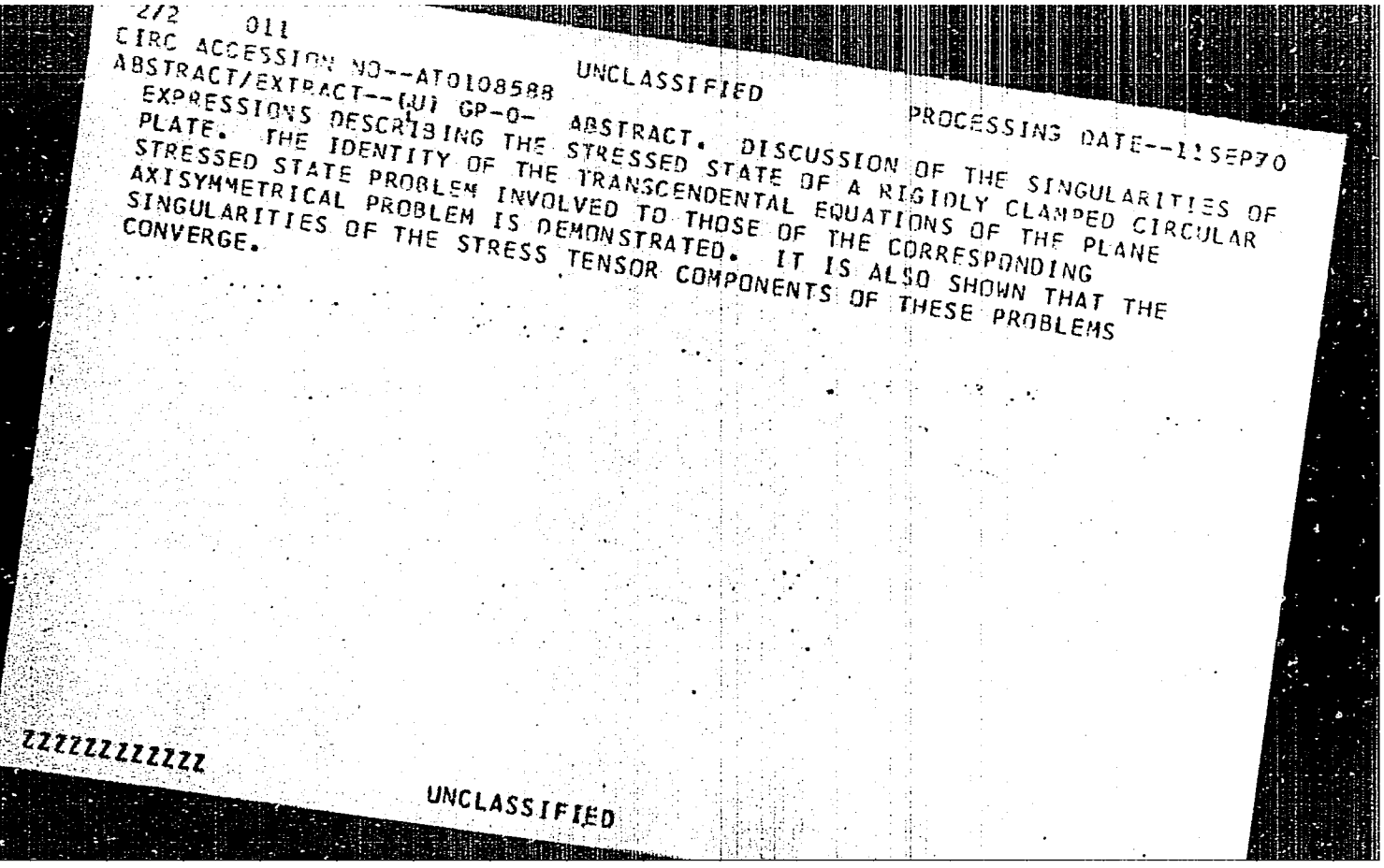

2/2 011
UNCLASSIFIED
CIRC ACCESSION NO--AT0108588 PROCESSING DATE--11SEP70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF THE SINGULARITIES OF EXPRESSIONS DESCRIBING THE STRESSED STATE OF A RIGIDLY CLAMPED CIRCULAR PLATE. THE IDENTITY OF THE TRANSCENDENTAL EQUATIONS OF THE PLANE STRESSED STATE PROBLEM INVOLVED TO THOSE OF THE CORRESPONDING AXISYMMETRICAL PROBLEM IS DEMONSTRATED. IT IS ALSO SHOWN THAT THE SINGULARITIES OF THE STRESS TENSOR COMPONENTS OF THESE PROBLEMS CONVERGE.
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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ANALYSIS OF HEAT LOSS SOURCES IN THE CUBE OF A FERRITE STORAGE UNIT -U-

AUTHOR--ULITOVSKIY, V.A.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY, PRIBOROSTROYENIYE, NO 2, 1970, PP 51-55

DATE PUBLISHED----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--COMPUTER STORAGE DEVICE, MATRIX ELEMENT, FERRITE CORE MEMORY, HEAT LOSS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1991/1691 STEP NO--UR/0146/70/000/002/0051/0055

CIRC ACCESSION NO--AT0123515

UNCLASSIFIED

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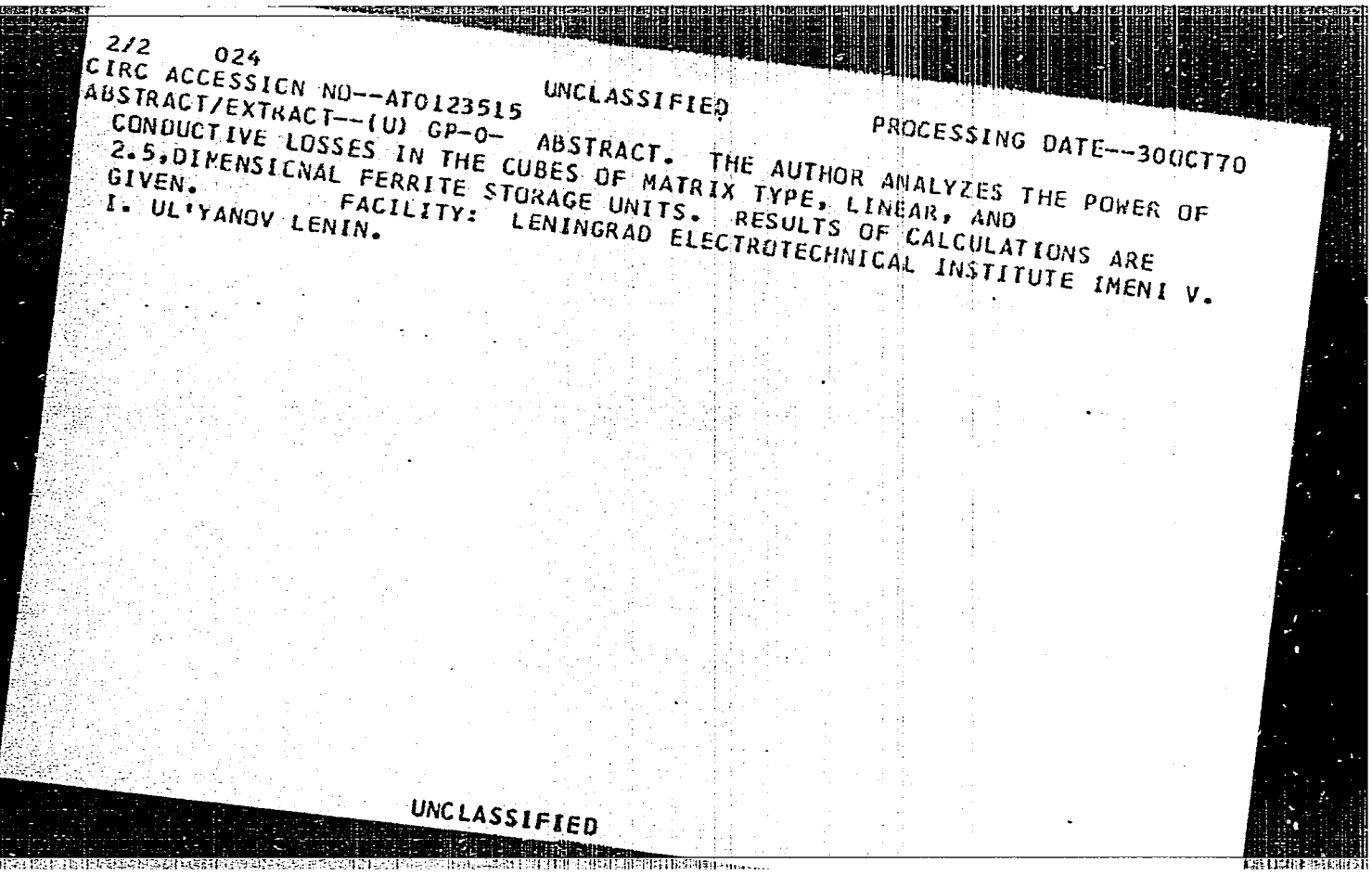

2/2 024 UNCLASSIFIED
CIRC ACCESSION NO--AT0123515 PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR ANALYZES THE POWER OF CONDUCTIVE LOSSES IN THE CUBES OF MATRIX TYPE, LINEAR, AND 2.5,DIMENSIONAL FERRITE STORAGE UNITS. RESULTS OF CALCULATIONS ARE GIVEN.
FACILITY: LENINGRAD ELECTROTECHNICAL INSTITUTE IMENI V. I. UL'YANOV LENIN.
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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5"

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ULITSKIY, Ye.

Mechanization OF AGRICULTURE

SO: FOREIGN PRESS DIGEST FPD 0029/71 AUGUST 71

53. USSR

ULITSKIY, Ye., Chief of the Safety Measures Laboratory of the All-Union Institute for the Mechanization of Agriculture, Candidate of Technical Sciences; CHERKASOV, A., Engineer-Mathematician

"Electronic Computer and Analysis of Industrial Injuries"

Moscow, Okhrana Truda i Sotsial'noye Strakhovaniye, No 3, Mar 71, pp 30-31

Abstract: Current methods of gathering industrial injuries information are obsolete. Effective solution of safety problems requires clear presentation of current distribution of industrial hazards. A pilot program was initiated in the agricultural industry of the Latvian SSR to gather industrial accident information and to take advantage of modern data communication and processing techniques. Operationally, such information is collected and processed by the Industrial Safety Service. New methods of information processing and analysis have been selected; time lapse between the accidents and the determination of their causes has been almost eliminated, allowing for a continuous control of effectiveness of preventive measures. Initial information is entered on form N-1; it is coded according to a code table and transmitted to a computer center for storage. Thus, a massive data bank of continuously updated information is formed on complete histories of accidents. Subsequently, this

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USSR

ULITSKIY, Ye., CHERKASOV, A., Okhrana Truda i Sotsial'noye Strakhovaniye, No 3, Mar 71, pp 30-31

information is systematized, processed according to analytical programs, and distributed to subscribers. In the future, additional information will be stored to aid the development of accident prevention methods. Areas for improvement will not be limited to automated analysis but will include refinement of the coding table and increase in its information capacity. Early experience with the pilot program of mechanized analysis has resulted in singling out a large number of industrial hazards and more than seventy proposals and recommendations aimed at accident prevention.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 533.951.2/.3

KURILKO, V. I., ULLSHMID, I. V.

"Nonlinear Theory of Čerenkov Excitation of a Plasma by a Modulated Beam of Charged Particles"

V sb. Fiz. plazmy i probl. upravlyayemogo termoyadern. sinteza. Vyp. 1 (Plasma Physics and Problems of Controlled Thermonuclear Synthesis. No 1 --collection of works), Kiev, "Nauk. dumka", 1971, pp 109-119 (from RZh-Mekhanika, No 10, Oct 71, Abstract No 10B117)

Translation: A nonlinear theory is developed for Čerenkov interaction between a modulated beam of charged particles and a slow-wave resonator for the case where the rise in amplitude of the Čerenkov field in the resonator is stabilized by the reverse effect of the field on the motion of beam particles. The characteristic rise time and maximum amplitude of the field are calculated. The physical meaning of the results is discussed. Bibliography of eleven titles. Authors' abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 621.313.333:538.4

KALNIN', A. Ya., MIKRYUKOV, Ch. K., PETROVICHA, R. A., RUPENEYT, V. A., and [redacted] I. Ya.

"Flat Induction Pump Characteristics With Heterogeneous Electromagnetic Force Distribution Along the Channel Width"

Riga, Magnitnaya Gidrodinamika, No 4, Oct-Dec 71, pp 94-98

Abstract : Velocity profiles and p(Q)-characteristics of magnetohydrodynamic (MHD) machines with accounting for local slipping along the channel width with non-uniform distribution of electromagnetic forces are calculated and compared with experimentally derived results. The latter comply satisfactorily with theoretical calculations. The velocity profiles calculated for various flow rates Q and a current load of $A=0.27 \cdot 10^5$ A/m show that at pumping conditions a reverse flow exists on channel borders. The investigation revealed that the calculation of MHD-machines by simultaneous accounting for electromagnetic and hydraulic processes results in more precise conformity of theoretical and experimental data. Five illustr., four formulas, six biblio. refs.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 537.1.074

GAL'CHINETSKIY, L.P., KOSHKIN, V.M., KULAKOV, V.M., KULIK, V.N., RUDENKO, K.I., RYABKA, P.M., ULMANIS, U.A., SHAKOVTSOV, V.I.

"Study Of The Possibility Of Use Of Type In_2Te_3 Semiconductors As Detectors Of Reactor Radiation"

V sb. Metrol.neytron.izlucheniya na reaktorakh i uskoritelyakh (Metrology Of Neutron Radiation At Reactors And Accelerators--Collection Of Works), Moscow, 1971, p 56 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2B275)

Translation: During irradiation of $A^{III}B^{VI}$ compounds of the In_2Te_3 type by fast neutrons with fluxes up to 5×10^{16} cm^{-2}, electrons with an energy of 100 Mev with fluxes up to 10^{19} cm^{-2}, and gamma quanta with an energy of 1.2 Mev with fluxes up to 10^{18} cm^{-2}, a marked radiation sensitivity is discovered. An irreversible change of the electrophysical properties after irradiation is not established. The possibility is studied of the use of these materials as the basis for radiation-resistant detectors. A.M.

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USSR

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GAL'CHINETSKIY, L. P., KOSHKIN, V. M., KUMAKOV, V. M., KULIK, V. N., RUDENKO, M. I., RYABKA, P. M., ULMANIS, U. A., SHAKHOVTSOV, V. I., and SHINDICH, V. L.

"Radiation Stability Effect in Semiconductors With Stoichiometric Vacancies"

Leningrad, Fizika Tverdogo Tela, vol 14, No 2, 1972, pp 646-648

Abstract: Because such lattice defects as impurity atoms have no effect on the electrical characteristics of semiconductors of the $A^{III}_2B^{VI}_3$ type, such as In_2Te_3, Ga_2Te_3, and Ga_2Se_3, the authors were led to the assumption that irradiation of these crystals by high-energy particles would have little effect on their electrical characteristics as well. To test this assumption, they subjected crystals of In_2Te_3 and Ga_2Te_3 to irradiation by gamma quanta, fast electrons, and fast neutrons in a pulse reactor, as well as by mixed reactor radiation. Tables of the characteristics of these crystals before and after the irradiation are presented. The authors of this brief communication thank V. S. Vavilov and V. L. Vinetskiy for their helpful discussions of the results.

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1/2 051 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EMISSION CHARACTERISTICS OF SOME REFRACTORY METALS WITH MIXED ADSORBED CESIUM AND BARIUM FILMS -U-

AUTHOR-(03)-BONDARENKO, V.D., LOSHKAREV, A.I., ULMASBAYEV, B.SH.

COUNTRY OF INFO--USSR

SOURCE--TEPLOFIZ. VYS. TEMP. 1970, 8(1), 211-13

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--REFRACTORY METAL, CESIUM, BARIUM, FIELD EMMISSION, METAL FILM, TUNGSTEN, MOLYBDENUM, NIOBIUM, METAL COATING, WORK FUNCTION, CRYSTALLOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1951 STEP NO--UR/0294/70/008/001/0211/0213

CIRC ACCESSION NO--AP0118913

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2/2 051 UNCLASSIFIED

CIRC ACCESSION NO--AP0118913 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WORK FUNCTIONS, PHI, AND FIELD EMISSION IMAGES OF VARIOUS CRYSTALLOGRAPHIC PLANES OF W, MO, AND NB COATED WITH ABSORBED CS AND BA FILMS WERE STUDIED AT (1-2 TIMES 10 PRIME NEGATIVE9 MM HG. SINGLE CS FILMS ARE ACTIVE MAINLY IN THE (112) AND (110) PLANES; THE EMISSION OF SINGLE BA FILMS IS MAX. FROM (122), (123), AND (111) PLANES; THE EMISSION OF SINGLE BA FILMS IS MAX. FROM (122), 123), AND (111), (112) PLANES AT THETA BA IS MUCH LESS THAN L AND THETA BA CONGRUENT TO L, RESP. (THETA EQUALS T-T SUBOPT, WHERE T IS THE ACTUAL DURATION OF BA OR CS DEPOSITION, AND T SUBOPT IS THE TIME REQUIRED FOR OBTAINING THE MIN. PHI). MIXED CS-BA FILMS WERE OBTAINED BY DEPOSITING CS ON BA-COATED METALS; IN ALL CASES, PHI CS-BA WAS LOWER THAN PHI BA. THE EMISSION OF THE CS-BA-METAL SYSTEM IS MAX. FROM (112) AND (110) PLANES AT THETA BA IS LESS THAN OR EQUAL TO 0.3; THE CONTRIBUTION FROM (112) DEGREASES FOR THETA BA YIELDS 1.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 539.3:536.21

ANDREYEV, V. G., ULYAKOV, P. I., Moscow

"Volume Thermal Impact in a Plate"

Kiev, Prikladnaya mekhanika, Vol. VIII, No. 7, Jul 72, pp 54-59

Abstract: Thermal impact in a plate with a cylindrical volume source, the intensity of which is an arbitrary function of time, is discussed. It is noted that problems of thermal impact in a half-space were solved for cases of an instantaneous and a linear rise in the temperature of the surface. The authors observe that it became possible to achieve volume heating of a substance in a very short time with the development of powerful radiation sources such as electron beams and lasers. The amplitude and slope of the thermoelastic wave which determine the breakdown of the material are functions not only of the duration of the radiation pulse but also of the spread of the initial elastic wave by heat conductivity. For simplicity the heating of an infinite plate by a volume cylindrical source is considered where the intensity drops exponentially with depth and is an arbitrary function of time. Laplace and Fourier transformations are applied to find the general form of the temperature field. The dynamic problem of

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USSR

ANDREYEV, V. G., ULYAKOV, P. I., Prikladnaya mekhanika, Vol. VIII, No. 7, Jul 72, pp 54-59

thermoelasticity is solved using the temperature field. Equations for the elastic potentials obtained from the equations of motion are solved by operational methods. It is shown that the stresses are described by a set of damping oscillations of harmonic form and arbitrary shape with a steep leading front and have the form of a simple wave for a finite heating time. In limiting cases the solution obtained transforms into familiar particular cases.

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ULYAKOV, P I.

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compares theory with earlier experimental results. The divergence seen at lower frequencies and higher pressures is ascribed to increased multiphoton ionization probabilities owing to local nonuniformity.

Kuznetsov, A. Ye., A. A. Orlov, and P. I. Ulyakov. Pulsed regime for vaporizing optical materials by CO_2 laser radiation. IN: Sbornik. Kvantovaya elektronika, Moskva, no. 7, 1972, 57-60.

An analysis is given of experimental results on the interaction of CO_2 laser radiation ($\lambda = 10.6\mu$; constant power density = $(0.5\text{-}2)\ 10^4\ w/cm^2$) with a series of optical materials, as reported by Bubyakin et al (FIAN, 1969, 34p), where a shielding effect in the evaporation process of the substance and cavity formation were noted. Time characteristics of cavity depth f_k and the length of the luminous part of the flare f_f for KV quartz glass are plotted in Fig. 1. The evaporation displays a clearly

Fig. 1. Relationship of cavity depth f_k and flare length f_f to irradiation time for quartz glass ($q = 1.9 \times 10^4/cm^2$)

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ULYAKOV, P. I.

II. SHOCK WAVES IN SOLIDS

Andreyev, V. G. and P. I. Ulyakov.
Finite dimension volumetric thermal shock in a transparent plate. I-FZh, v. 23, no. 1, 1972, 158-159.

The presence of high temperature gradients during a short-term thermal shock requires the application of a hyperbolic equation of thermal conductivity, which takes into account the finite heat propagation velocity (HPV). In dielectrics, the thermal conductivity of the lattice is the basic mechanism of heat transfer, and the HPV equals the velocity of sound C_0 in the medium. The movement of temperature and stress perturbations with equal velocity along a material signifies the propagation of a single wave. When the given initial conditions are discrete (instantaneous shock), the pressure, amplitude, and density in such a wave undergo a shock, and equations of thermal elasticity are inapplicable for finding the parameters of the medium during a rupture of its continuity.

In real processes, thermal shock has a finite duration, and stress accretion takes place continuously behind the wave leading edge. In the present work, the solution of the dynamic problem of thermal elasticity for a three-dimensional shock of finite duration is obtained by the method of Laplace transforms. Expressions are obtained for the temperature and stresses, and the problem is solved in parallel with the parabolic equation of thermal conductivity. The quasi-static stressed state is a particular case (when $C_0 \to \infty$). The quasi-static stressed velocity equal to sound velocity into the thermoelasticity problem eliminates the physically contradictory appearance of stresses prior to wave arrival at a given point. Analysis shows that the amplitude of the

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC: 621.378:536.4:666

KUZNETSOV, A. Ye., ORLOV, A. A., and ULYAKOV, P. I.

"Pulsating Evaporation of Optical Materials Under the Action of a Carbon Dioxide Laser"

Moscow, Kvantovaya elektronika, No 7, 1972, pp 57-60

Abstract: An analysis is made of some of the experimental results on the interaction of a CO_2 laser, having a wavelength of 10.6 μ, with several optical materials in which a screening effect was noted in vaporization of the material, and pits were formed. The screening of the vaporized surface is caused by the appearance of a large quantity of electrons in the vapor at power densities of 10^8-10^9 W/cm^2. Some of the materials investigated were quartz glass of the KV type, LK-5 glass, TF-5 glass, K-8 glass, and LiF crystals. Curves are plotted for the pit depths and the length of flame jets observed to spurt from the specimens under laser action as functions of time, and for the vaporized mass of the material as a function of time at the initial vaporization period. The authors of this brief communication thank V. N. Slavskiy for his assistance in the processing of the results.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 669.295'29:620.172.226

SOLONINA, O. P., and ULYAKOVA, N. M.

"Investigation of Titanium Alloys Alloyed with Refractory Elements"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 4, Apr 73, pp 39-43

Abstract: To study the properties of titanium alloys above 600°C (alloy VT18 is only used up to 600°C) a number of alloys were produced: binary alloys Ti-Mo (up to 30% Mo), Ti-V (up to 30% V), Ti-Nb (up to 60% Nb), and Ti-Cr (up to 30% Cr); ternary and more complex alloys of the systems Ti-Mo-Nb, Ti-Mo-Nb-V, Ti-Mo-Nb-Cr, and Ti-Mo-Nb-V-Cr containing up to 30-40% total alloying elements and additionally alloyed with B, Si, Cu, and Al. It was found that alloys with a high content of alloying elements possess reduced ductility in a comparison with alloys having an alpha- and alphat beta-structure. Most of the compositions with the beta-titanium structure have low heat resistance and high ductility at 650°C in comparison with existing alloys having alpha- and alphat beta-structures. Alloys of the Ti-Mo-Nb-Cr and Ti-Mo-Nb-V-Cr systems are the most heat resistant. Increased heat resistance of beta-structured titanium alloys can be achieved by complex alloying of the beta-solid solution and intermetallide strengthening. Two figures, one table, five bibliographic references.
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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 669.295:620.17:621.78

SOLONINA, O. P., and ULYAKOVA, N. M.

"The Effect of Heat Treatment on the Mechanical Properties of VTZ-1 Titanium Alloy"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 11, 1972, pp 26-30

Abstract: A study was made of the effects of repeated isothermal annealing, the cooling rate after high-temperature heating, and the temperature of the second annealing stage on the mechanical properties of VTZ-1 alloy smelted on a sponge titanium base. The effect of aging time and aging temperature on the mechanical properties of the annealed (920 °C) and hardened VTZ-1 alloy, and its mechanical properties after repeated and isothermal annealing are discussed. The rate of cooling from 870 to 650°C in isothermal annealing did not affect the mechanical properties; repeated isothermal annealing increased the plasticity properties. Optimum double annealing increases the ultimate strength by 8-10 kg/mm^2, with negligible losses in plasticity. Double annealing, in comparison with isothermal annealing, requires a shorter cycle of heat treatment, particularly for large-size parts. Five figures, two tables.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 669.295.5'27

MOYNOV, B. G., REZNICHENKO, V. A., SOLONINA, O. P., ULYAKOVA, N. M., and YEGOROV, S. I., Moscow

"Production of Ti-W Alloys by Coreduction of Chlorides, and Some of Their Mechanical Properties"

Moscow, Izvestiya Akademii Nauk SSSR. Metally, No 1, Jan-Feb 1970, pp 26-33

Abstract: Results are presented of investigations on the development of a direct metal-thermal method of producing binary Ti-W alloys. The method involves diffusion of hexachloride tungsten in tetrachloride titanium and reduction of the solution by metallic magnesium. The quantity of tungsten chloride introduced into the solution is determined by the composition of the obtained alloy. As a result of coreduction of chlorides and subsequent vacuum separation of the products of reduction, a tungsten-doped titanium sponge is produced from which it is possible to obtain ingots with a uniform distribution of alloy component. Increase of tungsten content in the alloy up to 10 percent raises the tensile strength of titanium with insignificant reduction of ductility in the hot-forging state. A considerable effect of work hardening at room temperature can be obtained by means of heat treatment of Ti-W alloys. A considerable

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

MOYNOV, S. G., et al, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan-Feb 1970, pp 26-32

softening of the Ti-W alloys was observed in the 300-550° C temperature interval. In alloys with 6 and 10% tungsten at temperatures above 400°C an anomalous change in the magnitude of transverse reduction was observed, a fact which points to increased creep resistance of the alloys.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 030 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--PREPARATION OF TITANIUM TUNGSTEN ALLOYS BY COREDUCTION OF THEIR CHLORIDES, AND SOME MECHANICAL PROPERTIES OF THE ALLOYS -U-

AUTHOR--MOYNOV, S.G., REZNICHENKO, V.A., SOLONINA, O.P., ULYAKOVA, N.M., YEGOROV, S.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 26-32

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--TITANIUM ALLOY, TUNGSTEN ALLOY, MECHANICAL PROPERTY, CHLORIDE, BINARY ALLOY, METAL HEAT TREATMENT, MAGNESIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0539 STEP NO--UR/0370/70/000/001/0026/0032

CIRC ACCESSION NO--AP0105524

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

242 030 UNCLASSIFIED

CIRC ACCESSION NO--AP0105524 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW METALLOTHERMIC METHOD OF OBTAINING BINARY TI-W ALLOYS AND SOME OF THE MECH. PROPERTIES OF THESE ALLOYS ARE DESCRIBED. THE METHOD FUNDAMENTALLY CONSISTS IN DISSOLVING THE WCL SUB6 IN TICL SUB4 AND IN REDUCING THE SOLN. BY METALLIC MG. THE AMT. OF WCL SUB6 DISSOLVED DEPENDS ON THE DESIRED QUALITIES OF THE ALLOY. AFTER COREDN. OF THE CHLORIDES AND AFTER VACUUM SEPN. OF THESE REACTION PRODUCTS, A TI TUBE ALLOYED WITH W IS FORMED, FROM WHICH CASINGS CONTG. AN EVENLY DISTRIBUTED ALLOYING ELEMENT CAN BE OBTAINED. BY INCREASING THE W CONTENT TO 16PERCENT, THE BREAKING STRENGTH OF THE TI ALLOY IS INCREASED. BY HEAT TREATMENT OF THE TI-W ALLOYS, AN IMPORTANT IMPROVEMENT OF MECH. PROPERTIES AT ROOM TEMP. CAN BE OBTAINED.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--REDUCTION OF SYNTHETIC FATTY ACIDS TO ALCOHOLS OVER A SUSPENDED COPPER CHROMIUM BARIUM CATALYST -U-

AUTHOR-(02)-ULYANENKO, V.I., KARZHEV, V.I.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(5), 335-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--FATTY ACID, CATALYTIC HYDROGENATION, CHEMICAL REDUCTION, CHROMIUM, COPPER, CALCIUM, ALCOHOL, BARIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0890 STEP NO--UR/0064/70/046/005/0335/0337

CIRC ACCESSION NO--AP0137918

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

2/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137918

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER OPTIMAL CONDITIONS (300-20DEGREES, VOL. INPUT RATE OF 0.6 HR PRIME NEGATIVE1, 300 ATM PRESSURE, H FATTY ACID RATIO OF 100:1, AND 7PERCENT CATALYST), CONVERSION OF A C SUB10-16 FATTY ACID FRACTION WAS 99PERCENT DURING HYDROGENATION WITH A SUSPENDED CU,CR,BA CATALYST, 1PERCENT OF WHICH HAD TO BE REPLACED DURING EACH CYCLE, AND THE HYDROGENATE CONTAINED 87.7-8.9PERCENT FATTY ALCS., 0.7-2.0PERCENT ESTERS, 0.7-0.9PERCENT AICDS, AND 7.0-8.0PERCENT H SUB2 O. IN THE CURRENT INDUSTRIAL PROCESS, INITIAL CONVERSION AND FATTY ALC. CONTENT WERE LOWER (97.3-8.4PERCENT AND 76.4PERCENT, RESP.) DURING REDN. AT 240-80DEGREES AND 300 ATM PRESSURE WITH A VOL. INPUT RATE OF 0.15 HR PRIME NEGATIVE1 AND A H FATTY ACID RATIO OF 200:1 IN A STATIONARY BED OF CU,CR,CA CATALYST WHICH DID NOT RETAIN ITS ACTIVITY.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 620.193.28

ZAKHAROV, YU. V., MYASNIKOV, YU. F., UL'YANIN, YE. A., VASIL'YEV, P. YE., and USTINENKO, M. YU., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Investigation of High-Strength Steels and Alloys for Work in Humid Hydrogen Sulfide"

Moscow, Zashchita Metallov, Vol 9, No 1, Jan-Feb 73, pp 61-63

Abstract: The tendency to failure under the action of hydrogen sulfide was investigated on 40Kh and 65G structural steels. 4Kh13 and Kh16N7M2Yu stainless steel subjected to martensitic transformation, and dispersion-hardened KhN40MDTYu (EP543) austenitic steel. Cylindrical specimens of 40Kh and 4Kh13 steels and EP-543 alloy were over a period of one month. The test results revealed that 40Kh and 4Kh13 steels in the hardened state ($R_c > 30$) are highly inclined to cracking in the presence of humid hydrogen sulfide, whereas the EP-543 alloy is stable. Laboratory tests under similar conditions revealed a high stability of austenitic dispersion-hardened EI437B alloy on a nickel base. One figure, twelve bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 047:669.14.018.8

[illegible]YANIN, Ye. A., Central Sceintific Research Institute of Ferrous Metallurgy imeni I. P. Bardin /TsNIICHERMET/

"New Corrosion-Resistant Steels and Alloys"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 4, 1972, pp 14-16

Abstract: A correlation of service characteristics covering a variety of nickel-base corrosion resistant steels and alloys developed by TsNIICHERMET for use in chemical machinery indicates high stability over a wide range of corrosive media and temperatures. The immediate needs of the chemical industry have placed more stringent requirements relative to high corrosion resistance coupled with high strength. There are two known categories of materials that have been designed to meet both requirements: 1) stainless steels of the austenitic-martensitic and martensitic classes and 2) high-alloy nickel-base steels and alloys with intermetallide hardening. The steels of the first category with tensile strength values of 160-180 kg/mm^2 lack adequate corrosion resistance. Much greater promise is held by the second category of materials--the age-hardenable (dispersion-hardenable)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UL'YANIN, Ye. A., Metallovedeniye i termicheskaya obrabotka metallov, No 4, 1972, pp 14-15

nickel-base steels and alloys. Alloying and various combinations of work hardening with aging provide adequate strength and corrosion resistance in various corrosive media. New advances have been made in recent years in the application of wrought nickel-base alloys including ON70MF (EP496) for service in reducing media and OON65KhMV (EP567) for oxidizing-reducing media. The alloys have been designed for making economically effective welded structures. (3 tables, 7 bibliographic references)

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USSR

UDC 669-937:669.24

SOROKINA, N. A., UL'YANIN, YE. A., TASHCHILOV, V. S., RASTORGUYEVA, I. A., KUBORSKIY, B. N.

"Structure and Properties of Nickel Alloys for Cryogenic Temperatures"

Moscow, Metallovedeniye, No 10, 1971, pp 20-23

Abstract: The use of dispersion-hardening alloys based on iron and nickel for operation at cryogenic temperatures was experimentally investigated. The results are discussed by reference to diagrams showing 1) the effect of test temperature on plasticity of the experimental nickel alloys with different iron contents alloyed with 2.5% Nb and 3% Ti, 2) the plasticity and ductility of nickel alloys (18% Cr, 9% Mo, 2.5% Nb) as a function of iron content, 3) the aging kinetics of nickel alloys, and the effect of introduction of Nb on the strength. Nickel alloys containing 1.5% Al and 5-15% Fe were found to meet the required demands of strength, plasticity, ductility, and welding properties. The KhN63M9B2Yu alloy has been developed for welded structures operating at temperatures from -253°C to 750°C. This alloy has

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

SOROKINA, N. A., et al, Metallovedeniye, No 10, 1971, pp 20-23

sufficiently high resistance to crack development in welding and subsequent heat treatment. 6 illustrations, 1 table, 2 bibliographic references

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 669.15-194.2:620.17

LAPIN, P. G., GULYAYEV, A. P., and UL'YANIN, YE. A., Central Scientific Research Institute for Ferrous Metals (TsNIICHERMET)

"Effect of Alloy Components on the Properties of Stainless Precipitation Hardened Martensitic Steels at Low Temperatures"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 2, 1972, pp 47-52

Abstract: The study concerns the effect of alloy components on the structure and properties of stainless precipitation-hardened martensitic steel at both room and below-zero temperatures. The experimental material was low carbon steel with 12% Cr and alternate contents of Ni, Ti, Cu, and Mo. In all steels under study nickel markedly decreases the temperatures of both the beginning and the end of martensitic transformation while Ti, Cu, and Mo hardly affect these temperatures. The amount of austenite in steels with various contents of alloy components is determined by their effect on the direct martensitic transformation temperature. Both the phase composition and the properties of the steels are a function of temperature changes in the $\alpha \rightarrow \beta$ transformation region. The phase ratios may be varied over a wide range by heating

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

LAPIN, P. G., et al, Metallovedeniye i termicheskaya obrabotka metallov, No 2, 1972, pp 47-52

up to 600°C and alloying with Ni. The type of failure of the impact specimens may be changed from brittle to ductile with increased contents of Ni and Mo. High strength at both normal and low temperatures is achieved by alloying the steel with Ti and Mo. (4 illustrations, 2 tables, 1 bibliographic reference).

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 669.14.018.8

BABAKOV, A. A., LAPIN, P. G., UL'YANIN, YE. A., USPENSKAYA, I. K., and FEDOROVA, V. I.,

"Influence of Nitrogen on the Properties of Chrome-Nickel-Manganese Steel With Molybdenum at Low Temperatures"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 113-116

Translation: The influence of nitrogen on the mechanical properties of 000Kh20G10N6M2 steel is studied in the 20-253°C temperature range. It is demonstrated that the limiting permissible quantity of nitrogen in the steel is 0.4%. Further increases in the quantity of nitrogen cause a decrease in ductility and impact toughness of the steel at low temperatures.

Introduction of nitrogen to the steel produced an increase in strength at 20°C to σ_b 850 Mn/m^2 (85 kg/m^2); $\sigma_T \geq$ 450 Mn/m^2 (45 Kg/mm^2). 2 figures.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 669.15-194.2:669-973

UL'YANIN, YE. A., OVSYANNIKOV, B. M., Central Scientific Research Institute of Ferrous Metallurgy

"Alloying of Austenitic Steels for Use under Conditions of Extreme Cold"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 6, 1970, pp 20-23

Abstract: An attempt is made to determine expedient limits for alloying cold-resistant austenitic steels with relatively large amounts of such metals as manganese, nickel, and chromium, which form substitute solid solutions with iron. A table shows steel structures at 20, -196, and -253°C. Impact tests were conducted on cylindrical samples with an annular 2-mm-deep cut with 0.9", 0.6", and 0.25"-mm radii at the top, and also on pre-cracked samples. The effect of manganese, nickel, and chromium on mechanical properties was studied and the results are presented in graphs. It is concluded that the content of the alloying elements must ensure the total absence of the martensite phase when cooling the steel to operating temperatures, and also in the case of local plastic deformation. The introduction of excess quantities of Cr, Mg, and Ni, which ensure a total austenite stability, is desirable only for steels with certain properties. 3 figures, 1 table, 5 references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 539.4

SOROKINA, N. A., LEBEDEV, D. V., ULIYANIN, Ye. A., ANTROPOV, N. P., (Moscow)

"Strength and Ductility of Chrome-Nickel-Manganese Steel as Functions of Carbon and Nitrogen Content in the 20-253°C Temperature Interval"

Kiev, Problemy Prochnosti, No 8, 1972, pp 89-93.

Abstract: The influence of carbon and nitrogen on the strength and ductility of chrome-nickel-manganese steel at low temperatures is studied considering stress concentrations. An increase in the content of carbon from 0.008 to 0.1% in the steel studied (hardened state) has little influence on strength and ductility determined on smoothed specimens and specimens with circular notches in the temperature interval studied. Test data from tensile testing of specimens with cracks at -253°C indicate a tendency of the steel studied toward increased strength with increasing carbon content from 0.008 to 0.03%. Increasing the nitrogen content in the hardened steel from 0.043 to 0.285% increases the strength significantly (by about 50%) in the 20-253°C interval, as determined on smoothed specimens, specimens with circular notches and cracks; ductility decreases, but even with 0.285% nitrogen, ductility is rather high. The sensitivity of the steel to stress concentration in the temperature interval studied at $K_t = 3.03$ is practically independent of carbon content between 0.008 and 0.1% and nitrogen content between 0.043 and 0.285%.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 539.4

SOROKINA, N. A., LEBEDEV, D. V., UL'YANIN, Ye. A., ANTROPOV, N. P., Kiev, Problemy Prochnosti, No 8, 1972, pp 89-93.

The impact toughness of the steel studied following tempering at 600-900°C is determined by the content of carbon and nitrogen and is significantly dependent on test temperature. In the hardened state, the toughness is high and little dependence on carbon and nitrogen content.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 018 UNCLASSIFIED

TITLE--ALUMINUM NITRIDES IN CARBON STEEL -U- PROCESSING DATE--11SEP70

AUTHOR--SMIRNOVA, A.V., ULYANINA, I.YU., VINOGRAD, M.I.

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2), 57-9

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ALUMINUM NITRIDE, CARBON STEEL, ALUMINUM CONTAINING STEEL, ALLOY DESIGNATION, ELECTRON MICROSCOPY, NITROGEN CONTAINING STEEL, NITRIDE, NONMETALLIC INCLUSION, SOLID SOLUTION, GRAIN GROWTH/(U)08YU ALUMINUM CARBON STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1292 STEP NO--UR/0129/70/000/002/0057/0059

CIRC ACCESSION NO--AP0106073

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5"

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2/2 018 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106073

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ELECTRON MICROSCOPIC STUDY OF 08YU STEEL WITH VARIOUS CONCNS. OF AL AND N WAS USED TO DETN. THE SHAPE AND SIZE OF THE NITRIDE PHASE WITH DEPENDENCE ON HEAT TREATMENT, TO EXPOSE THEIR DISTRIBUTION IN THE BULK OF THE SOL. SOLN. AND THEIR CRYSTALLOGRAPHIC NATURE. THE DISPERSED AL NITRIDE INCLUSIONS HAVE PLATELET AND ROD SHAPES, THE LATTER OBSD. FOLLOWING ANNEALING. THE NITRIDE PHASES ARE LOCATED IN THE BULK OF FERRITE GRAINS AND HAVE A HEXAGONAL LATTICE WITH PARAMETERS A 3.11, C 3.98 ANGSTROM. THE INHOMOGENEOUS DISTRIBUTION OF THE NITRIDE PHASE IN THE BULK OF THE METAL, IS DUE TO THE STRONG GRAIN SIZE DIFFERENCE. IN THOSE PARTS WHERE AL NITRIDE IS SMALL, THE GRAINS ARE COARSE. DISSOLN. OF THE NITRIDE PHASE WITH INCREASING TEMP. PROMOTES THE GRAIN GROWTH OF AUSTENITE.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 033 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF IONIZING RADIATION ON THE FUNCTIONAL STATE OF THE FROG NEUROMUSCULAR SYNAPSE -U-

AUTHOR--ULYANITSKAYA, A.YE.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(1), 54-8

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--IONIZING RADIATION BIOLOGIC EFFECT, NERVOUS SYSTEM, ACETYLCHOLINE, CHOLINESTERASE, RADIATION DOSAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0448 STEP NO--UR/0205/70/010/001/0054/0058

CIRC ACCESSION NO--AP0121122

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5"

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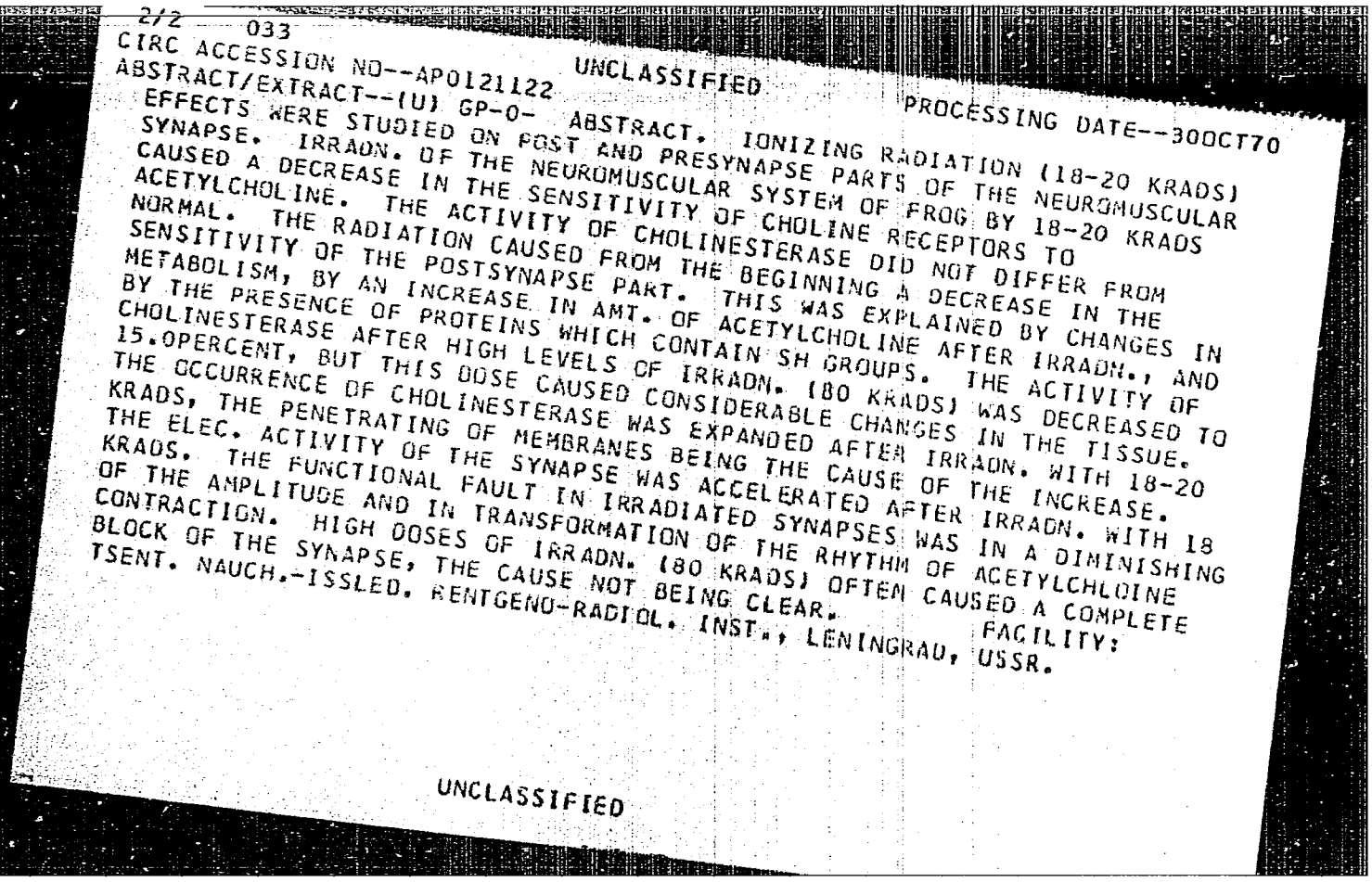

2/2 033
CIRC ACCESSION NO--AP0121122 UNCLASSIFIED PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IONIZING RADIATION (18-20 KRADS) EFFECTS WERE STUDIED ON POST AND PRESYNAPSE PARTS OF THE NEUROMUSCULAR SYNAPSE. IRRADN. OF THE NEUROMUSCULAR SYSTEM OF FROG BY 18-20 KRADS CAUSED A DECREASE IN THE SENSITIVITY OF CHOLINE RECEPTORS TO ACETYLCHOLINE. THE ACTIVITY OF CHOLINESTERASE DID NOT DIFFER FROM NORMAL. THE RADIATION CAUSED FROM THE BEGINNING A DECREASE IN THE SENSITIVITY OF THE POSTSYNAPSE PART. THIS WAS EXPLAINED BY CHANGES IN METABOLISM, BY AN INCREASE IN AMT. OF ACETYLCHOLINE AFTER IRRADN., AND BY THE PRESENCE OF PROTEINS WHICH CONTAIN SH GROUPS. THE ACTIVITY OF CHOLINESTERASE AFTER HIGH LEVELS OF IRRADN. (80 KRADS) WAS DECREASED TO 15.OPERCENT, BUT THIS DOSE CAUSED CONSIDERABLE CHANGES IN THE TISSUE. THE OCCURRENCE OF CHOLINESTERASE WAS EXPANDED AFTER IRRADN. WITH 18-20 KRADS, THE PENETRATING OF MEMBRANES BEING THE CAUSE OF THE INCREASE. THE ELEC. ACTIVITY OF THE SYNAPSE WAS ACCELERATED AFTER IRRADN. WITH 18 KRADS. THE FUNCTIONAL FAULT IN IRRADIATED SYNAPSES WAS IN A DIMINISHING OF THE AMPLITUDE AND IN TRANSFORMATION OF THE RHYTHM OF ACETYLCHLOINE CONTRACTION. HIGH DOSES OF IRRADN. (80 KRADS) OFTEN CAUSED A COMPLETE BLOCK OF THE SYNAPSE, THE CAUSE NOT BEING CLEAR. FACILITY:
TSENT. NAUCH.-ISSLED. RENTGENO-RADIOL. INST., LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

1/2 028 UNCLASSIFIED PROCESSING DATE--25OCT70

TITLE--CORROSIVE WEAR IN WELLS AS A FUNCTION OF GAS CONDENSATE FLOW VELOCITIES -U-

AUTHOR-(04)-KUTOVAYA, A.A., ULYANOV, A.M., KUZNETSOV, V.P., MIROSHNICHENKO, O.A.

COUNTRY OF INFO--USSR

SOURCE--GAZOV. PROM. 1969, 14(11), 8-10

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--PETROLEUM DEPOSIT, CORROSION RATE, METAL PIPE, PIPE FLOW/(U)D STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/2032 STEP NO--UR/0492/69/014/011/0008/0010

CIRC ACCESSION NO--AP0122261

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

2/2 028 UNCLASSIFIED

CIRC ACCESSION NO--AP0122261 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CORROSION EROSION EXPTS. WERE CONDUCTED AT 4 WELL SITES ON TYPE D STEELS AT GAS CONDENSATE FLOW RATES OF 5-45 M,SEC. TEST SPECIMENS WERE LOCATED IN COUPLINGS CONNECTING 1.5M LONG SECTIONS OF 2, 2.5, 3, 4, AND 6 IN. PIPES. THE OPERATING CONDITIONS FOR THE NORTHERN STAVROPOLSK PETAGIADINSK (1) AND MAIKOPSK (2) WELL SITES ARE, RESP.: LIQ. FLOWS, 320-380 AND 4-51.,DAY. GAS FLOWS, 180-200 AND 400-500 10 PRIME3 M PRIME3PERDAY. WELL PRESSURE, 26-27.5 AND 100-102 ATM. CONDENSATE TEMP., 51-3 AND 70-85DEGREES. CO SUB2 CONTENT, 0.7-0.9 AND 4.3 VOL.PERCENT. CL RPIME NEGATIVE IN CONDENSER WATER, 88-105 AND 30 MG-L. CORROSION RATES AT I INCREASED SLOWLY AT FLOWS OF 5-20 M,SEC, AND WERE AT A MAX. OF 0.18 MM,YEAR IN THE 20-28 M,SEC REGION, DROPPING OFF SHARPLY TO 0.07 MM,YEAR AT 40-45M,SEC. AT SITE, 2, THE CORROSION INCREASED RAPIDLY AT FLOWS OF 2-7 M,SEC, WAS AT A MAX. OF 4.7 MMPERYEAR, IN THE 8-12 M,SEC REGION AND LEVELED OFF AT SIMILAR TO 3.2 MMPERYEAR AT FLOWS GREATER THAN 20,M,SEC. LOWER CORROSION RATES AT THE HIGHER FLOW RATES ARE DUE TO INCREASED TURBULENCE IN THE PIPES; EROSION CONTRIBUTIONS TO CORROSION ARE INSIFICANT EVEN AT HIGH FLOWS AS LONG AS THE CONDENSATE IS NOT CORROSIVE.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 681.128.82(088.8)

UL'YANOV, A. S., VIKTOROV, V. A., SAMSONOVA, N. G., Smolensk Branch, Scientific Research Institute of Thermal Power Engineering Instruments

"Discrete Level Meter"

USSR Author's Certificate No 223401, filed 27 Mar 67, published 15 Jul 69 (from RZH-Metrologiya i Izmeritel'naya Tekhnika, No 1, Jan 70, Abstract 1.32.810 P)

Translation: In the proposed level meter, the sensing element is assembled in a form of oscillatory circuits placed at points of level measuring, staggered according to frequency in relation to one another and connected through the electrical capacitances between two matched sections of a long line. One section of the line is connected to the output of a high-frequency generator and to the output of a resistance circuit, and the second through a shaping circuit to a pulse counter. This provides a means of measuring levels of media with different electrical properties.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

BERSHADSKIY, YE. YA. and UL'YANOV, G. K. UDC: 534.16.8

"Problem of Processing Signals of the Hydroaccoustic Frequency Band on Tubular Ultrasonic Waveguides"

Tr. Leningr. in-t aviats. priborostr. (Works of the Leningrad Institute of Aviation Instrument Building), Leningrad, 1972, vyp.76, pp 84-88 (from RZh-32.Metrologiya i Izmeritel'naya Tekhnika, No 6, 1973, Abstract No 5.32.475)

Translation: The authors measure the group delay characteristics of a fundamental flexural ultrasonic wave with a circular symmetry for tubular waveguides. A brass waveguide was used as an example (length 2m, external radius 3mm, internal radius 1.5mm). The group delay time differential at the quasi-linear section was 1.1 milliseconds in the 18kc frequency band with an average frequency of 238kc. The general introduced losses constitute 4 db. A comparison is made with other types of waveguides and it is shown that it is possible to use tubular wavegudes for processing signals in the hydroacoustic frequency range. Original article: four illustrations and four bibliographic entries.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

BERSHADSKIY, Ye. Ya. and UL'YANOV, G. K.

UDC: 621.317.757

"Spectral Analysis With an Ultrasonic Dispersion Waveguide"

Leningrad, Priborostroyeniye, No 2, 1972, pp 25-28

Abstract: The dispersion spectrum analyzer is defined as having a broad-band linear dispersion four-terminal network as its basic element, and is used for analyzing the spectrum of single pulses as well as samplings of random signals. This article discusses its principle of operation and block diagram, and derives the principal relationships for the instrument in which the four-terminal dispersion network is ultrasonic. The latter is in the form of an aluminum waveguide, 1 mm thick and 2000 mm long, twisted into a spiral. Experimental results for the instrument are given, and photographs of spectra oscillograms are provided. The authors are connected with the Leningrad Institute of Aviation Instrument Design.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 621.391.677.4

KULAKOV, S. V., LEKS, A. G., SEMENOV, S. P., and UL'YANOV, G. K.

"Ultrasonic Signal Processer"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No. 33, 1971, p 174

Abstract: Used for processing the signals of phased antenna gratings by restoration of the wave front, this device contains a radiating acoustical grating, an ultrasonic polygon, a multichannel amplifier, an indicator, and a system for computing the acoustical field distribution. The computing system takes the form of a receiver acoustical grating whose elements are connected to the television-type indicator, and thus simplifies the construction and reduces its cost. The patent is claimed by the Leningrad Institute of Aviation Instrument Construction.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC: 621.374.5(088.8)

KEL'ZON, V. S., KARINSKIY, S. S., UL'YANOV, G. K.

"An Ultrasonic Surface-Wave Delay Line"

USSR Author's Certificate No 262951, filed 4 Jan 61, published 3 Jun 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11G236 P)

Translation: This Author's Certificate introduces an ultrasonic surface-wave delay line with an acoustic line made from an X-cut quartz plate with continuous control of delay time. The device is equipped with transducers which convert an electric signal to acoustic and vice versa. To extend the range of the bandwidth and simplify construction of the delay line, the unit makes use of matching transformers, a movable reception transducer and an absorbing substrate made from a material such as pitch which cuts down the level of parasitic signals.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

UDC 533.69.01+533.662.013

UL'YANOV, G. S.

"Supersonic Flow Past Permeable Plates at Small Angles of Attack"

Nauch. Tr. In-t Mekh. Mosk. Un-t (Scientific Works of the Institute of Mechanics, Moscow Univresity), No 11, 1971, pp 64-71 (from Referativnyy Zhurnal, Mekhanika, No 2, Feb 72, Abstract No 2B294 by A. V. Krasil'nikov)

Translation: The results of an experimental study of supersonic flow past permeable plates at small angles of attack (6° -- 17°) are presented. The experiments were conducted in a supersonic wind tunnel at Mach numbers from 1.5 to 3.0 and at numbers of R = (2.5--4) times 10^6. Square plates 100 x 100 mm and a thickness of 2.5 mm with symetrically sharp front and rear edges were tested. Holes 3 mm in diameter were drilled along the entire surface of the plate. The plate permeability was as follows: 0, 8.5, 16, 25.5, 51.5%. (By coefficient of permeability is meant the ratio of the total area of the holes to the entire area). The plates were fastened in the working part of the wind tunnel on two tape suspensions. Coefficients C_x, C_y, and K were determined by an aerodynamic scale in relation to the angle of attack at various plate permeabilities. All the experimental results were reduced to contours. A detailed analysis of the obtained data was made.

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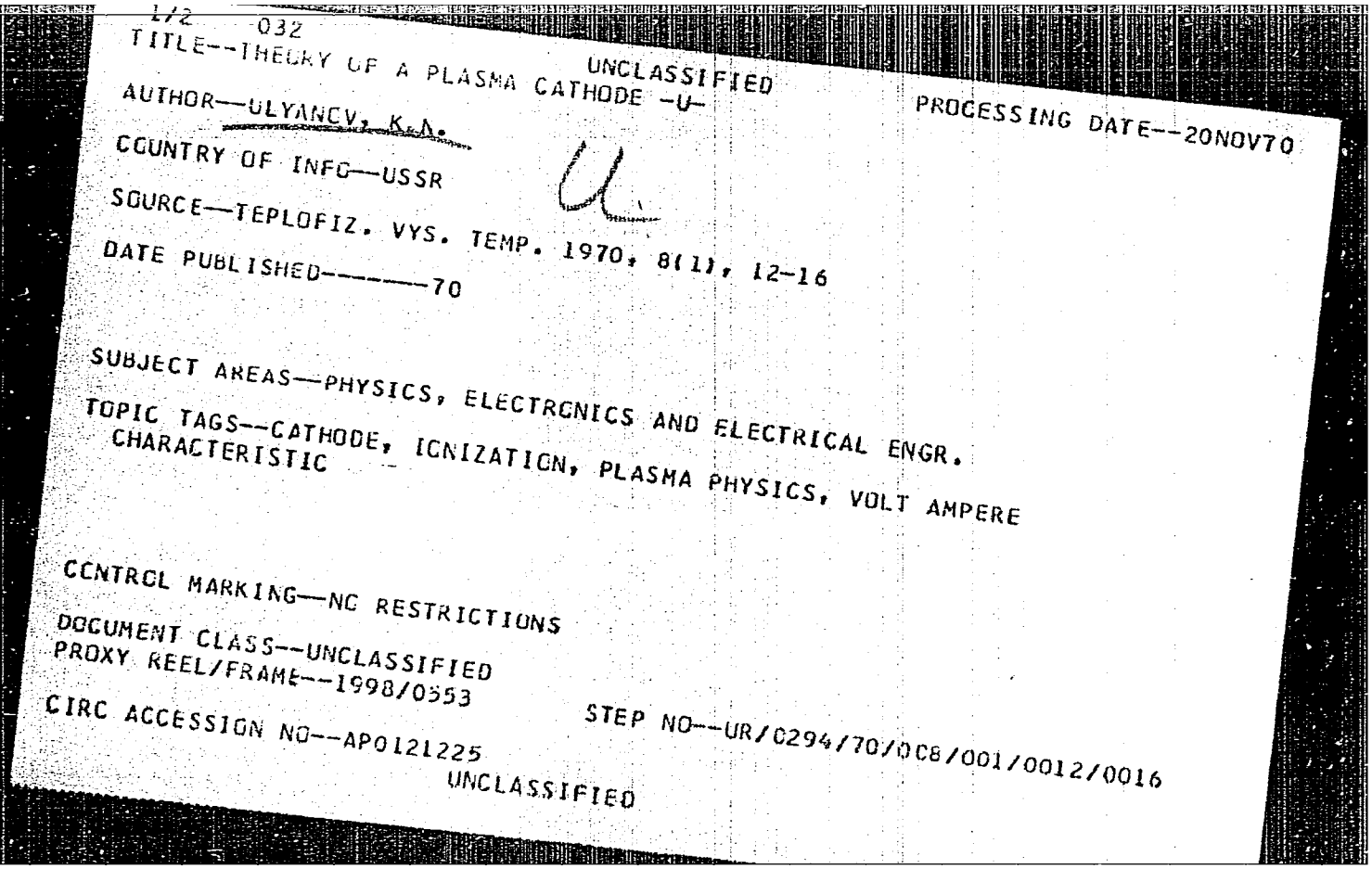

1/2 032 UNCLASSIFIED

TITLE--THEORY OF A PLASMA CATHODE -U-

AUTHOR--ULYANOV, K.N.

COUNTRY OF INFO--USSR

SOURCE--TEPLOFIZ. VYS. TEMP. 1970, 8(1), 12-16

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--CATHODE, IONIZATION, PLASMA PHYSICS, VOLT AMPERE CHARACTERISTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0553

STEP NO--UR/0294/70/008/001/0012/0016

CIRC ACCESSION NO--AP0121225

UNCLASSIFIED

PROCESSING DATE--20NOV70

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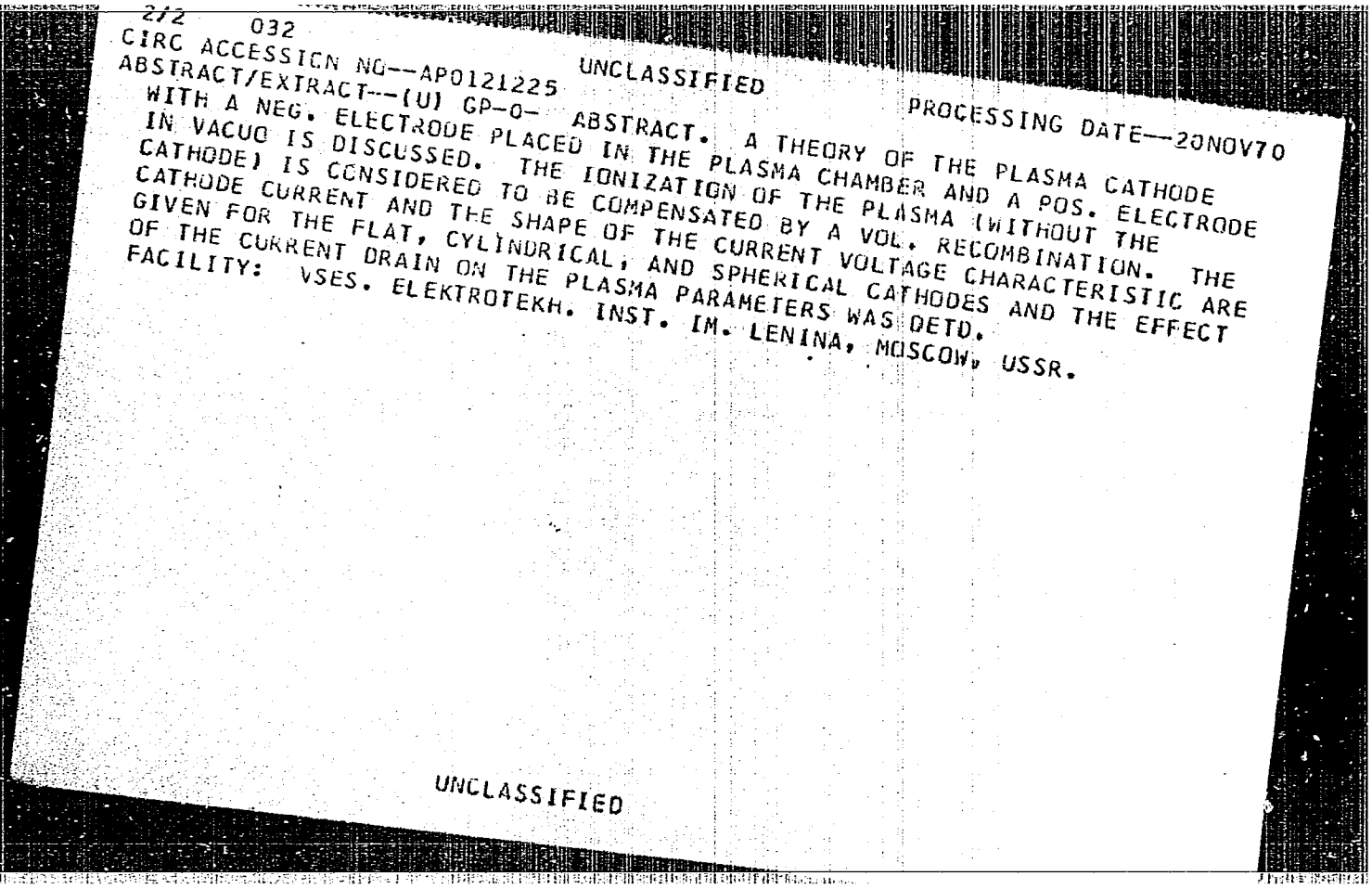

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CIRC ACCESSION NO--AP0121225 UNCLASSIFIED PROCESSING DATE--20NOV70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A THEORY OF THE PLASMA CATHODE WITH A NEG. ELECTRODE PLACED IN THE PLASMA CHAMBER AND A POS. ELECTRODE IN VACUO IS DISCUSSED. THE IONIZATION OF THE PLASMA (WITHOUT THE CATHODE) IS CONSIDERED TO BE COMPENSATED BY A VOL. RECOMBINATION. THE CATHODE CURRENT AND THE SHAPE OF THE CURRENT VOLTAGE CHARACTERISTIC ARE GIVEN FOR THE FLAT, CYLINDRICAL, AND SPHERICAL CATHODES AND THE EFFECT OF THE CURRENT DRAIN ON THE PLASMA PARAMETERS WAS DETD.
FACILITY: VSES. ELEKTROTEKH. INST. IM. LENINA, MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5"

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UDC 617-001.28-036.11-06:617-001.32

SEMENOV, V. A., UL'YANOV, M. I., TORBENKO, V. P., NAZAROV, V. A., GORYACHEV, A. N., and YANOVSKAYA, E. M., Radiology Department, Central Insitute of Traumatology and Orthopedics, Academy of Medical Sciences USSR

"Symptoms and Treatment of Radiation Lesions Combined with Injury Due to Compression of Soft Tissues"

Moscow Ortopediya, Travmatologiya i Protezirovaniya, No 1, 1970, pp 11-17

Abstract: Following whole-body irradiation (400 r) of a group of dogs, the soft tissues of their left femurs were slowly crushed (over a period of 6 hours) with a special press. The mortality rate from traumatic shock was much lower in the experimental animals than in controls (compression without irradiation) and their general resistance to the effects of crushing was higher during the first few hours after the compression period. On the 2nd and 3rd days the condition of both groups of animals was equally poor, but the improvement that was manifested in both groups on the 4th and 5th days progressed only in controls. By the 8-10th day the condition of the 1/2

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USSR

SEMENOV, V. A., et al., Moscow, Ortopediya, Travmatologiya i Protezirovaniya, No 1, 1970, pp 11-17

experimental animals deteriorated sharply, and at the height of radiation sickness mortality increased sharply. Treatment of human beings suffering from crushing of soft tissues after exposure to high levels or radiation should take cognizance of the slow development of shock, changes in the hematological system, prolonged hypoproteinemia, altered critical activity, etc.

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UDC: 517.512

UL'YANOV, P. L.

"Series Representation of Functions, and Classes $\phi(L)$"

Moscow, Uspekhi Matematicheskikh Nauk, Vol 27, No 2(164), Mar/Apr 72, pp 3-52

Abstract: The article is a survey of the literature relating to series representation of functions and the problem of unique representation. The review covers works from 1910 to 1972. Considerable attention is also given to questions of the validity of the Weierstrass theorem and problems of representation for functions from classes $\phi(L)$.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203420003-5

USSR

NIKOLAYENKO, N. A. and UL'YANOV, S. V. (Moscow)

UDC: 534.11:519.2:624.04

"Statistic Analysis of Parametric Systems Under Random Dynamic Effects"

Moscow, Stroitel'naya Mekhanika i Raschet Sooruzheniy, No 2 (80), 1972, pp 4-9

Abstract: The authors study unsteady, nonlinear systems with a random structure and one degree of freedom. Methodology is proposed for determining the distributed density functions for the motion probabilities of similar systems. The methodology is based on the solution of the appropriate Fokker-Planck-Kolmogorov equations. Complete statistical characteristics are obtained for the amplitude of motion of the systems studied. The proposed methodology makes it possible to avoid complex calculations in solving mixed type integral equations and can be used effectively in the study of some elasto-plastic systems, for example those with Prandtl's diagram. Original article: two figures, 35 formulas, and seven bibliographic entries.

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